

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1. REVIEW DATE: 6/14/05	DETERMINATION (CIRCLE NUMBER)
AUTHORITY: DAOC-2140C-0100	1. CLASSIFICATION RETAINED
NAME: [REDACTED]	2. CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: 8/03	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: ADO	4. CLASSIFICATION CHANGED TO:
NAME: WISCO CHOR	5. CLASSIFICATION CANCELLED
	6. RECLASSIFIED INFO DISSEMINATION
	7. OTHER (SPECIFY):

[REDACTED]	
MANHATTAN DISTRICT HISTORY	
BOOK IV - PILE PROJECT	
X-10	
VOLUME 6 - OPERATION	3A
APPENDIX B, C, D, & E	

~~ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED~~

SECRET
MANHATTAN DISTRICT HISTORY ✓
BOOK IV - PILE PROJECT
I-10
VOLUME 6 - OPERATION 3A
APPENDIX B. C. D. & E 4097

MANHATTAN DISTRICT HISTORY

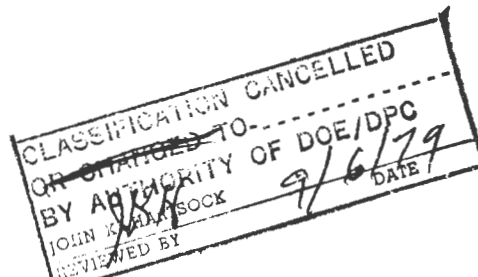
BOOK IV - X10 PROJECT

VOLUME 6 - OPERATION

APPENDIX B

CHARTS AND TABULATIONS

<u>No.</u>	<u>Description</u>
1	Conditions for Inserting Safety Rods
2	Hanford Engineer Works Safety Record
3	Nursery School Attendance
4	Tabulation of Commercial Operators
5	Richland Village Data
6	Tabulation of Operating Costs Through December 1946
7	Graph Hanford Engineer Works Operating Costs January 1944 to December 1946 - Monthly and Accumulated
8	Hanford Engineer Works Organization Charts - Area Engineer (1 July 1946)
9	Hanford Engineer Works Organization Charts - Area Engineer (3 October 1946)
10	Hanford Engineer Works Organization Charts - Contractor (du Pont - 1 July 1946)
11	Hanford Engineer Works Organization Charts - Contractor (du Pont - 1 May 1946)
12	Hanford Engineer Works Organization Charts - Contractor (General Electric - 1 November 1946)
13	Status of Special Request Samples as of 31 December 1946
14	Samples of Security Education for Personnel



DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1st REVIEW-DATE: 7/3/79	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: DD	1. CLASSIFICATION RETAINED
NAME: TY SAN DECS	2. CLASSIFICATION CHANGED TO:
(FCI 9/22/79)	3. CONTAINS NO DOE CLASSIFIED INFO
2nd REVIEW-DATE:	4. COORDINATING AGENCY
AUTHORITY: DD	5. CLASSIFICATION CANCELLED
NAME:	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY):

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CONDITIONS FOR INSERTING SAFETY RODS

No. 1 Safety Circuit

The following events which actuate the No. 1 safety circuit are:

1. Low water pressure on either unchilled riser.
2. Low water pressure on either chilled riser.
3. High power level (discharge water activity) indicated by the ion chamber with No. 1 Beckman.
4. High power level (neutron density) indicated by the ion chamber with No. 2 Beckman.
5. High power level (neutron density) indicated by the ion chamber with No. 3 Beckman.
6. High power level (neutron density) indicated by ion chamber with No. 4 Beckman.
7. Electric power failure at the process pump building.
8. Depression of a manual push button at the control desk.

No. 2 Safety Circuit

A second safety circuit has been incorporated in the instrumentation of the Pile control to allow the unit to be shut down by the shim rods alone. It was expected that minor abnormal disturbances, not sufficiently important to justify the insertion of the vertical safety rods, would cause the No. 2 safety circuit to operate. Experience has shown that only those circumstances which cause the No. 1 circuit to trip are sufficiently urgent to justify the shutdown of the Pile. Therefore the No. 2 circuit can be tripped only with the control desk push-button. (See Vol. 3),

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HANFORD ENGINEER WORKS
SAFETY RECORD

<u>Period</u>	<u>Man-Hours</u>	<u>Frequency</u>	<u>Severity</u>	<u>No. Lost-Time Accidents</u>	<u>No. Days Lost</u>
Dec. 1943 - July 1945	12,254,136	1.23	0.03	15	415
July 1945 - Dec. 1945	4,531,211	0.63	1.23	30	6143**
Jan. 1946 - Dec. 1946	3,766,697	0.34	0.01	3	123
 TOTAL (Dec. 1943 - Dec. 1946)	 20,552,044	 0.61	 0.26	 210	 6678**

* Includes 1 fatality

** Includes 6000 day penalty for fatality

(1) 1946 Safety Record - 236 days in which there were no lost-time injuries.

- (a) Frequency rate: 0.34; 1945: 0.93
- (b) Severity rate: 0.017; 1945: 0.54
- (c) 3 lost-time injuries; 1 each in 200-W, 200-E, and 700 Areas.

(1) All injuries on day shift.

(2) Types of injuries: 1 fractured arm
1 acid burn, H.F.
1 infected blister

(d) Temporary-partial injuries

(1) All injuries on day shift; 52% in first part of work shift.

(2) Types of injuries: fractures - 52%
contusions - 9%
punctures - 4%

(a) Hands and arms - 54%

(b) Toes and feet - 37%

(e) Minor injuries

(1) 56% were lacerations or abrasions.

(f) Responsibility for lost-time and temporary-partial injuries:

(1)	Insufficient supervision	42%
(2)	Insufficient safety morale	39%
(3)	Machinery & Equipment	7%
(4)	Safety device not provided	5%
(5)	Physical deficiency of employee . . .	3%
(6)	Incorrect type of safety device . . .	2%
(7)	Methods of process	1%
(8)	Housekeeping	1%

In all, 93% of all lost-time and temporary-partial injuries chargeable to human element.

(g) Four (4) departments without injury during year.

SCHOOLS - NURSERY

<u>MONTH</u>	<u>TOTAL ATTENDANCE</u>	<u>NO. ENROLLED</u>	<u>AVERAGE ATTENDANCE</u>
September 1944	576	33	18
October	759	33	23
November	910	35	26
December	703	37	19
January 1945	950	38	25
February	1783	54	33
March	2683	60	39
April	2769	71	39
May	3573	76	47
June	4623	89	52
July	2640	60	44
August	2788	68	41
September 1945	4890	90	54
October	6144	96	64
November	4620	84	55
December	4641	91	51
January 1946	5046	87	58
February	5100	88	60
March	4536	81	56
April	5187	91	57
May	3643	64	57
June	3120	78	40
July	1800	60	30
August	1680	56	30
September	5115	93	55
October	5590	86	65
November	5023	81	62
December	4212	78	54
 Total	 96,060	 1963	 1254
 Average per month	 3,395	 70	 48

TABULATION OF COMMERCIAL OPERATORS

<u>NAME OF FACILITY</u>	<u>CONTRACT AWARDED TO</u>	<u>OPERATING FIRM NAME</u>
Food Store "A"	H. E. Garms	Garms's
Food Store "B"	Randall & Doyle	Groceteria
Food Store "C"	Safeway Stores, Inc.	Safeway Stores, Inc.
Food Store "D"	Gerritsen & Herring	Village Food Store
Food Store "E"	T. Kitchell & Fred Campbell	Campbell's
Drug Store "A"	L. M. Castleberry	The Drug Center
Drug Store "B"	C. W. Olberg & M. S. Morgan	Penny-Wise Drug Store
Drug Store "C"	C. W. Olberg & M. S. Morgan	Richland Thrifty Drug
Bank	Seattle First Nat. Bank	Seattle First Nat. Bank
Service Station No. 1	Tidewater-Associated Oil Co.	Tidewater-Associated Oil Co.
Service Station No. 2	Standard Oil Company	Standard Oil Company
Service Station No. 3	True's Oil Company	True's Oil Company
Barber Shop	C. E. Gansel	Gansel's Barber Shop
Beauty Shop	K. O. Siler	Richland Beauty Salon
Recreation Building	L. O. Foisey	Recreation Center
Hardware	Richland Supply Company	Richland Supply Company
Variety	Diamond's 5¢ to \$1.00	Diamond's 5¢ to \$1.00
Women's Apparel	Rodney Cox	The Style Center
Men's Apparel	Klopfenstein's, Inc.	Men's Apparel Shop
Shoe Store	B. J. Saad & S. S. Freeman	Richland Shoe Salon
Shoe Repair Shop	Mickey's Shoe Renewing	Mickey's Shoe Renewing
Theater No. 1	Mid-State Amusement Co.	Richland Theater
Theater No. 2	Mid-State Amusement Co.	Village Theater

Optical Shop	Binyon Optical Company	Optical Shop
Electrical Shop	Bergquist & Wilson	Richland Electric Shop
General Merchandise Store	G. C. Anderson's Stores, Inc.	G. C. Anderson's Stores, Inc.
Cafeteria	Progressive Cafeteria's	Cafeteria
Transient Quarters-Hotel	Progressive Cafeteria's	Transient Quarters
Laundry	Richland Laundry	Richland Laundry
Milk Depot	Carnation Company	Carnation Company
Garage	Simons & Jewell	Richland Motor Co.
Express Office	American Railway Express	American Railway Express
Western Union	Western Union	Western Union
County-State License Office		Sub-Office, County Auditor
Bus Depot	Motor Coach Lunch Inc.	Motor Coach Lunch Room
Postoffice	U. S. Postoffice Dept.	U. S. Postoffice Dept.
Ration Office-89X	O. P. A.	Ration Board
Childs Nursery-98X		Childs Nursery
Robley L. Johnson Studio	Robley L. Johnson	Robley L. Johnson Studio
Riding Academy	F. H. Moller	Riverside Stables

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RIGHLAND VILLAGE DATA

I. HOUSING DATA:

	<u>No.</u> <u>Units</u>	<u>No.</u> <u>Bedrooms</u>	<u>Type</u>	<u>Unit Cost*</u>	<u>Monthly Rent</u> <u>(Includes Utilities)</u>	
					<u>Unfurnished</u>	<u>Furnished</u>
<u>Regular</u>						
A	816	3	2 Story-Duplex	\$3,950.00	\$37.50	\$47.00
B	1040	2	1 Story-Duplex	3,770.00	33.50	42.00
D	8	4	2 Story-Single	6,025.00	67.50	84.50
E	84	3	1 Story-Single	5,325.00	62.50	78.00
F	250	3	2 Story-Single	4,820.00	50.00	62.50
G	8	4	2 Story-Single	6,030.00	67.50	84.50
H	250	3	1 Story-Single	4,700.00	50.00	62.50
L	44	4	2 Story-Single	6,580.00	62.50	80.00
Sub-						
Total	2500					

* Includes only modifications and revisions which have been approved and processed as of 27 March 1945. These unit costs probably will be revised upward by a few dollars when final costs are determined.

B-2

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HOUSING DATA (Continued)

	<u>No. Units</u>	<u>No. Bedrooms</u>	<u>Type</u>	<u>Unit Cost*</u>	<u>Monthly Rent (Includes Utilities) Furnished</u>
<u>Prefabs</u>					
A	402	1	1 Story- Single	\$2,199.00	\$27.50
B	802**	2	1 Story- Single	3,088.00	35.00
C	600	3	1 Story- Single	3,895.00	42.50
Sub- Total	1804***				
Grand Total	4304***				

II. DORMITORIES:

	<u>No. of Buildings</u>	<u>Total No. of Beds</u>
Men's Dormitories	8	304
Women's Dormitories	17	682
TOTAL	25	986

Monthly rental rates for dormitory rooms:

\$15.00 - Half of double inside room	\$20.00 - Half of double corner room
\$17.50 - Single inside room	\$22.50 - Single corner room

III. CHURCHES

New Buildings2

Existing church buildings in use.....1

Grange Hall remodeled for church use.....1

Religious denominations using school buildings...7

** Includes one house which was destroyed by fire after acceptance for payment, but before acceptance for occupancy.

*** Includes 252 1-bedroom, 137 2-bedroom, and 85 3-bedroom prefabricated houses declared surplus and shipped to Pacific Northwest colleges and universities as well as Los Alamos and Sandia.

IV. SCHOOLS:

Grade Schools ✓	4 (3 new - 1 existing) ✓
High School ✓	1 (new) ✓
Nursery ✓	1 (existing - remodeled) ✓

V. CEMETERY:

Cemetery	1 (existing)
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VI. PUBLIC SERVICES AND FACILITIES:

Barber Shop	1
Beauty Salon	1
* Bus Depot	1
** Cafeteria	1
Dog Pound	1 (existing - remodeled)
*** Drug Stores	3
Electric - Radio Shop	1 (existing - remodeled)
Food Stores	5
Garage	1
General Merchandise Store	1
Hardware Store	1 (existing - remodeled)
Hospital	1
Hotel (Transient Quarters)	1
Laundry-Dry Cleaning	1
Library	1 (existing - remodeled)

* Includes cafe and fountain service.

** Includes snack bar for lunches.

*** Includes fountain service and light lunches.

PUBLIC SERVICES AND FACILITIES (Continued)

License Bureau	1 (existing - remodeled)
Medical - Dental Clinic	1
Men's Furnishings	1 (existing - remodeled)
Milk Depot	1
Newspaper	1 (existing - remodeled)
Optometrist	1 (existing - remodeled)
Photographic Studio	1 (existing - remodeled)
Railway Express	1
Ration Office	1 (existing - remodeled)
**** Recreation Building	1
Red Cross	1 (existing - remodeled)
Service Stations	3
Shoe Repair Shop	1
Shoe Store	1 (existing - remodeled)
Theaters	2
U. S. Employment Service	1
Variety Store	1
Western Union	1 (existing - remodeled)
Women's Apparel Shop	<u>1</u>
TOTAL	43

**** Includes cafe, fountain service, bowling, billiards, dance floor, tavern, and private party lounge rooms.

VII. TELEPHONES:

2395 Telephones on 1587 lines (varies)

87 Trunk lines to other exchanges

2 PBX Boards

12 Teletalks

3 Teletypes

18 Switchboard positions

VIII. POWER & LIGHT:

Power load, daily average (June '45), 7500 KW (high) 17,400 KW
design capacity, 20,000 KW

Power and light poles 2038

Street lights 410

Sub-stations 8

Wire, single 339 miles

IX. RAILROADS: (In Richland Village Only)

Railroad main line 3.7 miles

Railroad sidings 1.34 miles

X. IRRIGATION:

Irrigation ditch 1.33 miles

Irrigation pipe line 3.43 miles

Drainage ditch 3.77 miles

XI. FIRE PROTECTION:

Fire Stations 2

Fire Plugs 454

Fire Alarm Boxes 105

XII. POLICE PROTECTION:

24 hour patrol

Two way radio on patrol cars

XIII. OUTDOOR ATHLETIC FACILITIES:

Baseball diamonds	2
Football field	1
Playgrounds	9
Practice football field	1
Running track	1
Soft ball diamonds	11
Swimming pool	1 (existing)
Tennis courts	18
Volley ball courts	1
Wading pool	1

XIV. WATER SYSTEM:

Water Mains - 3 inches to 24 inches 48.3 miles

Gate valves on water system 391

Corporation cocks 1536

Water Towers (3) Capacity-100,000 gallons each

Water Wells - Number drilled 18

Water Wells - Number not used 1 (abandoned, wrong location)

Water Wells - Number in use 17

Water Wells - Well depths 32 ft. to 200 ft.

Water Wells - Well casing size 6 in. to 24 in.

WATER SYSTEM (Continued)

Water Wells - Volume, well flow = 50 to 2575 gals. per min. each

Gallons used daily (June average) = 4,580,000

high - 6,020,000

Total Water System 107 miles

Design capacity 30,000,000 gals. per day

XV. SEWERAGE:

Sewerage disposal plant (1) Capacity - 1,000,000 gals. per day

Sewer mains 94.87 miles

Sewer man holes 478

Flush clean-outs 78

XVI. GENERAL MUNICIPAL DATA:

Bituminous surface parking compounds 275,000 square yards

Blacktop pads 1,400 square yards

Blacktop sidewalks 42.89 miles

City Area (2,355 acres) 3.68 square miles

Concrete pads 520 square yards

Concrete sidewalks 2.93 miles

Curbing 5.21 miles

Curb and gutter 4.45 miles

Streets 55.32 miles

HANFORD ENGINEER WORKS
OPERATING COSTS
THROUGH 31 DECEMBER 1946

	100 B	100 D	100 F	Fishery 100 Area	Total 100 Area	200 E	200 W	Building 231	Total 200 Area	Material Preparation 300 Area	Recovery 300 Area
Essential Materials	121,051.47	162,375.04	137,526.09		420,952.60	1,960,054.81	1,685,514.87		3,645,569.68	342,251.22	36,457.89
Supervision (Plant)	838,839.55	631,222.27	540,184.48	21,515.68	2,032,161.98	1,105,837.35	1,462,606.63	331,131.46	2,899,575.44	304,040.69	34,715.70
Operating Labor	1,367,956.86	1,430,275.70	1,215,903.74	36,318.67	4,050,454.97	2,748,896.75	3,272,108.63	625,281.30	6,646,286.68	911,270.83	71,600.89
Repair Labor	637,940.82	548,164.67	500,562.00	27,152.76	1,713,820.25	968,232.39	1,626,204.13	161,905.08	2,756,345.58	245,862.47	21,199.09
Maintenance Material	149,123.67	142,358.56	126,537.62	2,252.20	420,272.05	301,194.27	461,932.41	25,035.69	788,166.37	118,868.91	8,855.09
Operating Supplies	80,442.39	70,105.18	67,906.64	1,838.14	220,292.35	119,000.43	268,419.96	77,237.77	464,658.16	225,312.05	18,427.05
Technical Control	221,294.00	182,256.42	136,121.81		539,672.23	483,928.02	837,125.23	395,187.70	1,716,240.95	25,532.47	11,080.13
Technical Development	300,595.55	107,023.67	95,910.97		603,530.19	83,132.23	942,600.20	75,568.22	1,101,300.65	108,282.48	3,417.31
Power	8,838,262.61	8,989,584.47	7,211,025.77	16,755.02	25,056,627.87	1,783,965.83	2,720,618.37	164,530.38	4,865,114.58	288,146.49	45,022.34
Chemical Development						43,514.46	43,672.19		87,186.65	32,367.09	
Project 1553										1,019,458.54	
Extrusion Cost										490,698.55	
100 Technical Development Program											
TOTAL OPERATION COST	12,555,506.92	12,263,365.98	10,031,679.12	106,232.47	34,956,784.49	9,597,756.54	13,320,802.62	1,855,885.58	24,774,444.74	4,112,089.79	249,775.49

NOTE: Proration of Government and Contractor's overhead has been made on a dollar basis.

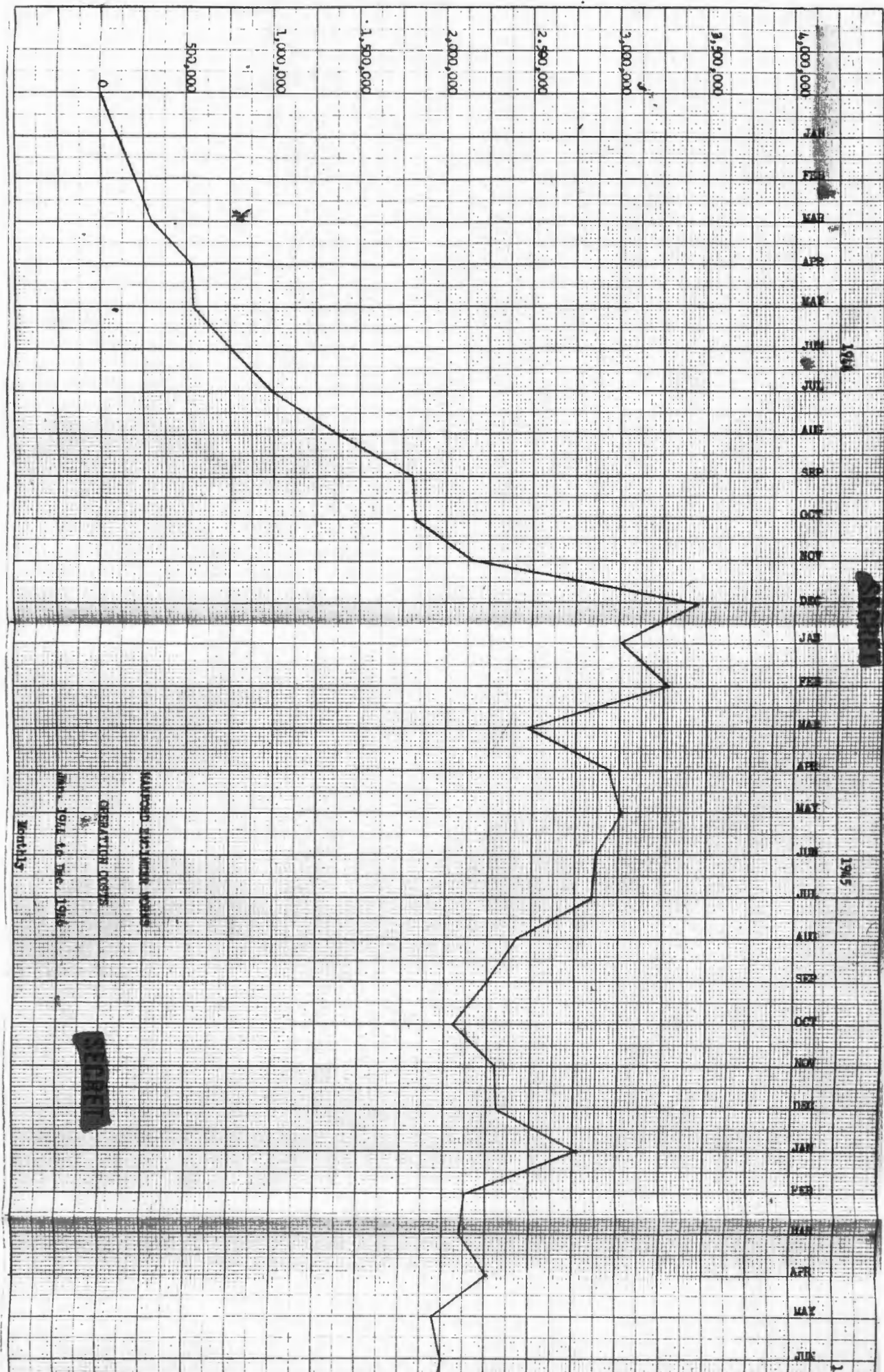
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HANFORD ENGINEER WORKS
OPERATING COSTS
THROUGH 31 DECEMBER 1946

100 F	Fishery 100 Area	Total 100 Area	200 E	200 W	Building 231	Total 200 Area	Material Preparation 300 Area	Recovery 300 Area	Chip Recovery 300 Area	Process #1 300 Area	Process #5 300 Area	Total 300 Area	Total Plant Cost
137,526.09		420,952.60	1,960,054.81	1,685,514.87		3,645,569.68	342,251.22	36,457.89		1,752,378.81		2,131,087.92	6,197,610.20
540,184.48	21,515.68	2,032,161.98	1,105,837.35	1,462,606.63	331,131.46	2,899,575.44	304,040.69	34,715.70	12,784.17	615,890.71	8,322.83	975,754.10	5,907,451.52
15,403.74	36,318.67	4,060,464.97	2,748,896.75	3,272,108.63	625,281.30	6,645,286.68	911,270.83	71,600.89	26,684.01	2,081,338.58	19,334.59	3,110,228.90	13,806,970.55
500,562.00	27,152.76	1,713,820.25	968,232.39	1,626,204.13	161,905.06	2,756,345.68	245,862.47	21,193.09	9,833.65	704,852.06	3,010.58	984,757.85	5,454,923.68
126,537.62	2,252.20	420,272.05	301,194.27	461,632.41	25,039.69	788,166.37	118,866.91	8,855.09	2,037.11	270,311.66	462.11	400,532.88	1,608,971.30
67,906.64	1,838.14	220,292.35	119,000.43	268,419.96	77,237.77	464,658.16	225,312.05	16,427.05	4,053.60	561,420.55	9,929.38	817,142.63	1,502,093.14
136,121.81		539,672.23	463,928.02	837,125.23	395,187.70	1,716,240.95	25,532.47	11,080.13	357.48	184,947.96	410.58	222,328.62	2,478,241.80
95,910.97		503,530.19	83,132.23	942,600.20	75,568.22	1,101,300.65	108,282.48	3,417.31	388.63	294,221.57	677.15	406,987.24	2,011,618.08
11,025.77	16,755.02	25,055,627.87	1,783,965.83	2,720,618.37	164,530.38	4,669,114.58	288,146.49	48,022.34	18,351.91	705,300.10	21,486.86	1,079,307.70	30,804,050.15
			43,514.46	43,572.19		87,186.65	32,367.09					32,367.09	119,553.74
							1,019,458.54					1,019,458.54	1,019,458.54
							490,698.55					490,698.55	490,698.55
										64,698.59		64,698.59	64,698.59
31,675.12	106,232.47	34,956,784.49	9,597,756.54	13,320,802.62	1,855,885.58	24,774,444.74	4,112,089.79	249,775.45	74,450.56	7,235,360.69	63,634.08	11,735,350.61	71,466,579.84

and Contractor's overhead has been made on a dollar basis.

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RAINFORD ENGINEER WORKS

OPERATION COSTS

JAN. 1941 TO DEC. 1946

Monthly

SECRET

APR

MAY

JUN

JUL

AUG

SEP

OCT

NOV

DEC

JAN

FEB

MAR

APR

MAY

JUN

JUL

AUG

SEP

OCT

NOV

DEC

JAN

FEB

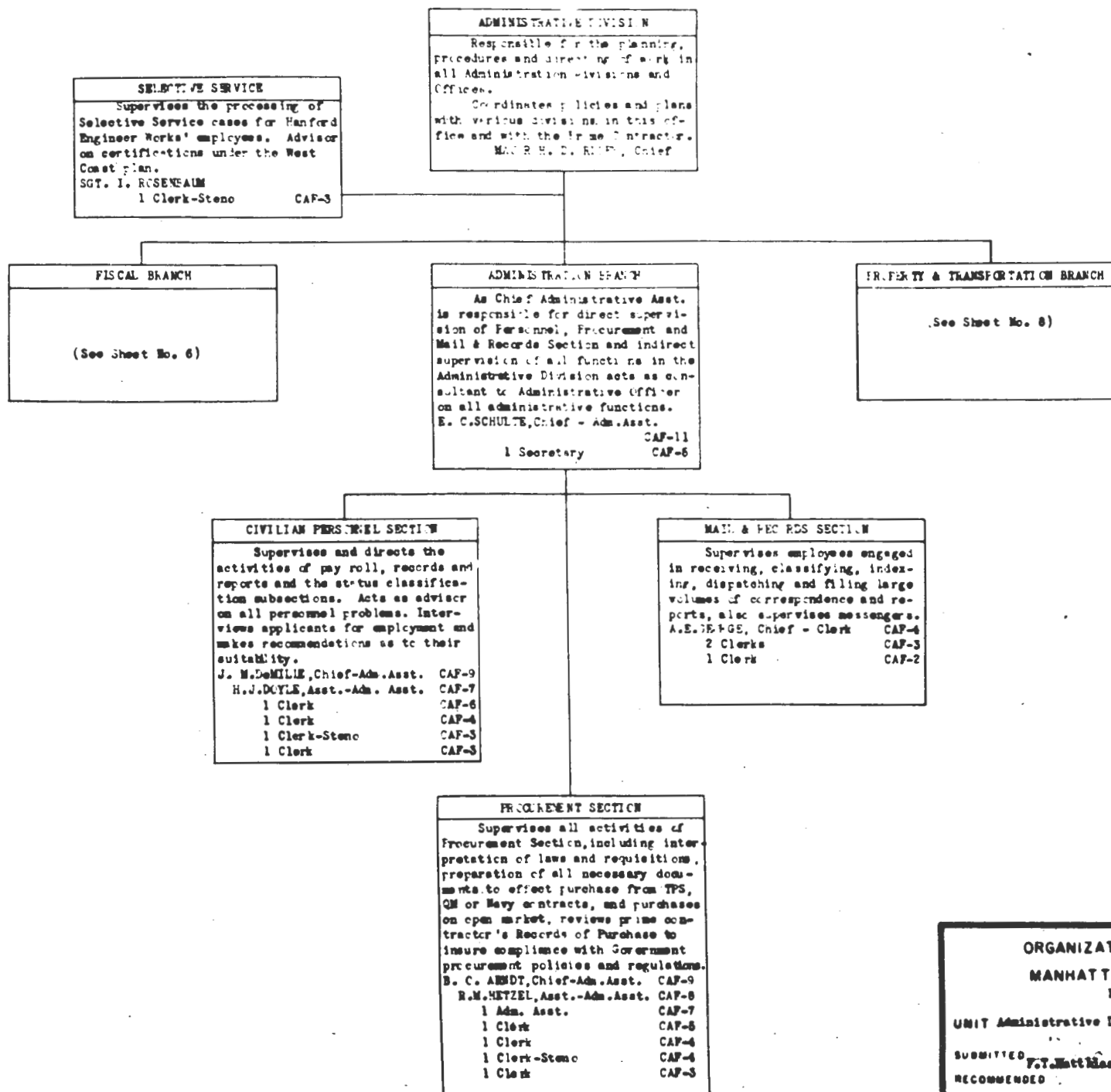
MAR

APR

MAY

JUN

JUL



PERSON
OFFICER 1
ENL 1
P
SP
CAF 20
CPG
MISCL.
VAC.
TOTAL 22

**ORGANIZATION CHART
MANHATTAN DISTRICT
E.F.W.**

UNIT Administrative Division

SUBMITTED F. T. Matthews, Colonel, Corps of Engineers, July 1946

RECOMMENDED DATE

APPROVED DATE

PERSON

OFFICERS

ENL.

S P.

S P.

CAF.

CPC.

MISCL.

VAC.

TOTAL

49

ENGINEER BRANCH

Coordinates and reviews work performed by sections of Engineering Division. Reviews and makes recommendations to higher authority on work of engineering character, including plans, specifications, contracts prepared by and performed under the direct supervision of the Prime Contractor or the Area Engineer. Acts as consultant to various branches of Prime Contractor's organization. Aids in establishing standards of performance; design factors and methods of accomplishing work of an engineering character. Approves drawings and specifications prepared by the Prime Contractor for work specifically authorized by higher authority.

C. S. CLARK, Chief - Engineer (Elec.) P-6

1 Clerk-Stenographer CAF-4

SPECIAL ASSISTANT

Coordinates work between the sections of the Engineering Division as directed by Division Chief. Acts as liaison between this office and the contractor in building maintenance, prepares minor construction data, supervises drafting, maintains register of du Pont Records of purchase and handles Engineering Division correspondence as directed.

F. H. MINNEMAN, Chief - Engineer (Civil) P-4

OFFICE ENGINEER

Requisitions, receives, and distributes plans, specifications, prints, photostats, engineering records. Reviews and maintains record of contracts, sub-contracts and amendments thereto. Files all records, plans, specifications, contracts and correspondence pertaining to the Engineering Division and prepares correspondence on miscellaneous matters in connection therewith.

F. H. MILDISH, Chief-Engineer (Civil) P-4

1 Clerk CAF-4

ELECTRICAL SECTION

Coordinates electrical design with the power companies and the contractor. Reviews and acts as consultant in all electrical design, general supervision of Government contracts covering electrical work. Conducts power studies and investigations for improvement of service and reduction of costs.

C. S. CLARK, Chief - Engineer (Elec.) P-6

1 Clerk-Stenographer CAF-4

MECHANICAL SECTION

Reviews work submitted by prime contractor for approval and prepares plans and specs. as directed by higher authority. Correlates problems concerning mech. design, plans or specs. with the Operation Div. of this office or the Prime Contractor. Directly in charge of operation pumps, compressors, boilers, irrigation water systems, ice plant, barracks, and the maint. of such blids. and equip. performed by this office. In charge of minor constr. facilities in connection with building equipment and functions performed by this office. As requested acts as consultant in mech. engr. operations and repairs to the Prime Contractor and the construction and production branches of this office.

J. M. MESSER, Chief - Engineer (Mechanical) P-6

R. J. GIDNEY, Asst. - Engineer (Mechanical) P-3

CIVIL SECTION

Checks work done by contractor, prepares plans and specifications, estimates of labor and material costs, engineering aspects of contracts for work involving civil engineering assigned to the Engineering Division, supervises and inspects performance of such work to the extent directed by higher authority and recommends the issuance of completion certificates. Initiates or recommends the issuance of completion certificates. Initiates or recommends on the desirability of methods for accomplishing improvements, maintenance, and repair in 700, 1100 and 3000 Areas as well as roads and general work, except railroads outside of the process areas. Does such work of civil engineering character as requested by the construction or production branches of this office.

LINDLEY M. REITH, Chief-Engineer (Civil) P-3

1 Engineer (Civil) P-3
1 Engineer (Civil) P-3
1 Supt. Const. P-3
1 Engineering Aide SP-2

INSIDE WORK SUB-SECTION

Detail inspection of electrical work and acceptance of completed work along with maintenance and detail records of work being done in individual units.

C. H. SHEPHERD, Chief-Engr. (Elec.) P-6

1 Engr. (Elec.) P-3
1 Supt. (Elec.) P-3
1 Insp. (Elec.) SF-8
1 Supv. Aud. (Timekeeping) CAF-7
1 Administrative Asst. CAF-7

3000 AREA SUB-SECTION

Responsible for operation and maint. of 3 high pressure boilers. Maint. of equip. and minor maint. of blids. Operation of well pumps, booster pumps, chlorinator and sewer lines at 3000 Area. Operation of weather instruments. Responsible for tool room and obtaining and dispensing materials and supplies.

J. H. W. RIVER, Chief-Mech "C" 1.60 p/h
4 Boiler Firemen 1.15 p/h
1 Boiler Fireman 1.10 p/h
1 Tool & Store Attd. 1.25 p/h

IRRIGATION MAINTENANCE SUB-SECTION

Services, maintains, operates and repairs water pumps, keeping tanks full and maintaining line pressure for fire protection, chlorinates water and operates, repairs and maintains ice plant to produce cold storage temperatures for food and manufacturing ice.

B. W. MCDEDE, Chief-Mechanic "B" 1.60 p/h
5 Mechanics "C" 1.80 p/h
4 Operators "A" 1.80 p/h

MAINTENANCE SHOP SUB-SECTION

Responsible for operation of area maint. shop including operation and repair of all mech. shop equipment. In charge of all maintenance and minor shop construction, including carpentry, plumbing, mach. work, elec., etc.

CLEMENT ALBERT, Chief-Mechanic "C" 1.60 p/h
7 Mechanics "C" 1.60 p/h

MINOR CONSTRUCTION & MAINTENANCE SUB-SECTION

In charge of inspection and repair of all tract houses outside of Richmond. Responsible for necessary maint. and repair of all barricades, constr. blids. in Hanford, White Bluffs and Vernita, all area and general maintenance.

EDMUND ANDERSON, Chief - Mechanic "C" 1.60 p/h
2 Mechanics "C" 1.60 p/h

TRANSMISSION & DISTRIBUTION SUB-SEC.

Reports directly to the Chief of Elec. Section and is in charge of operation, repair, maint. and new construction on outside lines and sub stations operated by Government forces. Responds to trouble calls on lines and remote points on Government operated facilities.

A. J. LOFTS, Chief - Superintendent (Elec.) 1-3

ORGANIZATION CHART

MANHATTAN DISTRICT

L.E.W.

UNIT Engineering Br., Engr. & Maint. Division

SUBMITTED F. T. Matthias, Colonel, C of E

RECOMMENDED DATE

APPROVED DATE

PERSONNEL

OFFICERS 1
 ENL 1
 P 7
 SP 2
 CAP 2
 CPC 12
 MISCL 12
 VAC
 TOTAL 42

ENGINEERING & MAINTENANCE DIVISION

Responsible for the planning, procedure and directing of work in all engineering and maintenance divisions and offices.

Coordinates policies and plans with various divisions in this office and with the Prime Contractor.

MAJOR H. D. RILEY, Chief

COMMUNICATIONS BRANCH

Responsible for the operation and supervision of cryptographic security, teletype, telephone and all equipment required therefor. Acts as Liaison Officer between the Area Engineer, Signal Corps, Prime Contractor and other agencies of the Army.

CAPTAIN E. E. CAMPLES, Chief

1 Supt. (Constr.) P-4
 1 Clk.-Steno CAF-4

CONTRACTS & CLAIMS BRANCH

Prepares prime contracts, reviews and makes recommendations on all subcontracts and acts in an advisory capacity with the Contracting Officer and Prime Contractor on legal problems in connection with contracts, subcontracts or agreements; civilian assistant to the Assistant District Claims Officer, maintains liaison with various governmental and state agencies and civilian assistant to the Labor Relations Officer.

H. MAYDEN RECTOR, Chief - Attorney

1 Clerk CAF-5

SAFETY BRANCH

Supervises and administers Community, Industrial and Construction Safety Programs, and Fire Prevention and Protection Program; organizes and coordinates accident prevention activities of the Safety Division. Also inspection of classified buildings in the 200 Areas.

VICTORY R. HOLMQUIST, Chief - Engineer (Safety) P-4

1 Clerk-Stenographer CAF-3

COMMUNITY MANAGEMENT BRANCH

Reviews specifications, invitations to bid and contracts on all community facilities, reviews renegotiation on facility contracts and all regulations for operation and maintenance of the community. Maintains records on facilities, leases and financial statements, establishes rentals on houses and dormitories and makes allocations to military and civilian employees, approves leases for some for the Contracting Officer, handles all real estate matters and assists Federal Prison Industries in the care and operation of all agricultural lands within the project.

H.G. FULLER, Chief-Adm. Asst., CAF-11

L.W. WARRNER, Asst. Chief-Adm. Asst.

1 Adm. Asst. CAF-8
 1 Clerk-Steno. CAF-4

TELETYPE

CAPTAIN E. E. CAMPLES, Chief

SGT. 1/2 E. KELVIN
 1/2 S. (SAC)
 1/2 S. (SAC)
 1/2 S. (SAC)

ENGINEERING BRANCH

(See Sheet No. 4)

MAINTENANCE SECTION

Responsible for supervision of installation, removal, and maintenance of telephones throughout the area; maintains miscellaneous circuits such as teletype, tactical communications, power dispatching, train dispatching, radio control, minor circuits for which wire facilities are furnished by this section. Maintains all switchboards, telephone records, cooperates with contractor analyzing traffic data and with the Signal Corps in obtaining equipment, materials and facilities. Requisitions stores, issues tools, and maintains all necessary records in connection therewith.

A. PARLET, Jr., Chief - Supt. (Const.)

P-4
 1 Clerk CAF-4
 1 Steno CAF-7
 3 Tel. Linemen 1.70 p/h
 14 Linemen 1.65 p/h
 1 Groundman 1.10 p/h

COMMUNITY SAFETY SECTION

Serves as consultant to Safety Director on all community safety activities, including traffic and sanitation. Supervises the community safety program to insure enforcement of safety measures, and reduce absenteeism due to accidents, in the home and school. Responsible for all Government employees' Safety Program. Inspects sanitation of all food handling establishments.

J.M. AUSTIN, Chief - Engineer (Safety) P-3

FIRE PREVENTION AND PROTECTION SECTION

Serves as consultant to the Safety Director on all fire prevention and protection matters. Responsible for the inspection of all construction and operations activities for fire hazards. Insures adequate fire fighting equipment and personnel in all areas on the project. In direct charge of the Hanford Patrol Department.

V.P. SHERRILL, Chief-Eng. (Safety) P-3
 HANFORD PATROL DEPT.

3 Patrolmen CPC-8
 1 Patrolman CPC-7
 19 Patrolmen CPC-6

INDUSTRIAL SAFETY SECTION

Serves as consultant on all technical safety problems in 100 and 300 Areas. Inspects all operations activities; supervises contractors' safety programs in those Areas. Also, inspects non-classified buildings in 200 Areas.

V.R. HOLMQUIST, Chief-Eng. (Safety) P-3

ORGANIZATION CHART

MANHATTAN DISTRICT

H.E.W.

UNIT Engineering & Maintenance Division

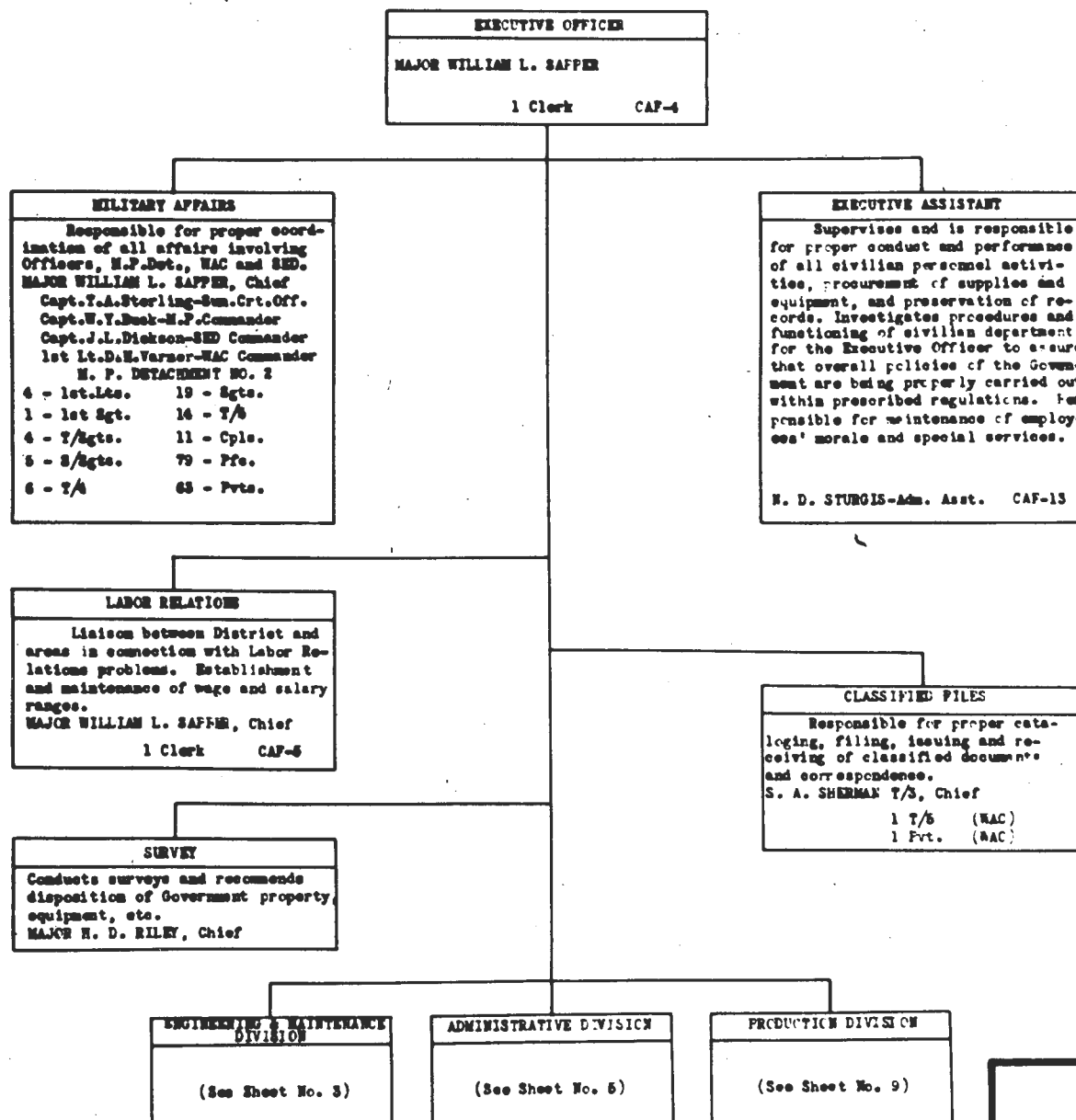
SUBMITTED 1/11/48 BY: 1/11/48
 F.T. Matthews, Colonel, C of E

RECOMMENDED DATE

APPROVED DATE

PERSONNEL

OFFICERS 12
 ENL. 206
 P.
 S P.
 CAP 3
 SPS
 MISCL.
 VAC.
 TOTAL 220

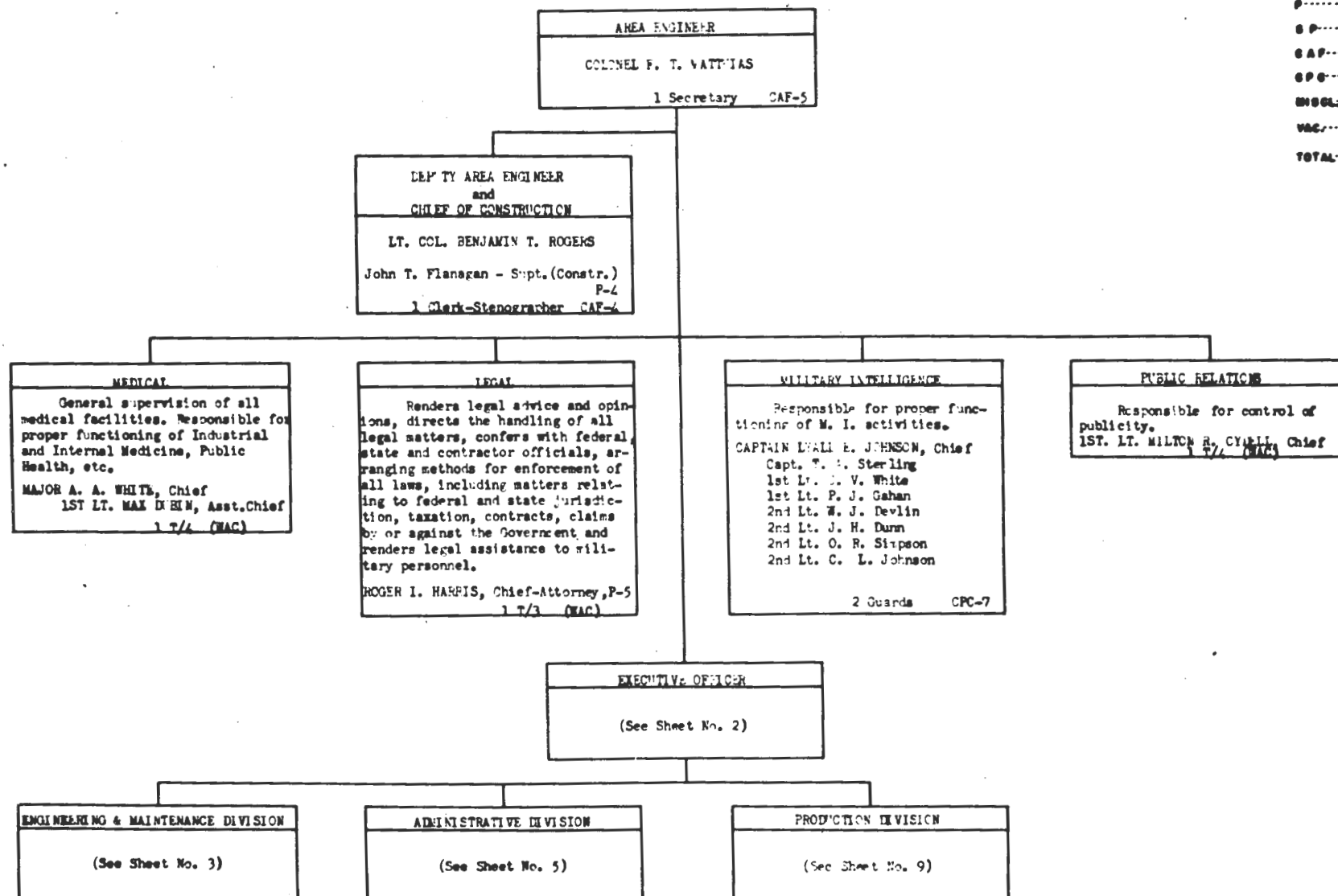


**ORGANIZATION CHART
 MANHATTAN DISTRICT
 N.Y.C.**

UNIT Executive Office

SUBMITTED	DATE 1 July 1944
RECOMMENDED	DATE
APPROVED	DATE

PERI L
 OFFICERS 27
 ENL 221
 P 30
 SP 7
 CAF 108
 CPC 24
 ENCL 26
 VAC
 TOTAL 487



**ORGANIZATION CHART
MANHATTAN DISTRICT**

UNIT Hanford Engineer Works

SUBMITTED 17 JUL 1945 DATE 1 July 1945
 F. T. Matthias, Colonel, C of E

RECOMMENDED DATE

APPROVED DATE 1 JUL 1945

PERSONNEL

OFFICERS

ENL.....
P..... 13
SP..... 1
CAP..... 1
SPS.....
MISCL..... 60
VAC..... 9
TOTAL..... 84

ENGINEERING & MAINTENANCE DIVISION

Responsible for the planning, procedure and directing of all work in the engineering and maintenance division.

Coordinates policies and plans with various divisions in this office and with the Prime Contractor.

U.S. Clark, Chief-Engineer, Electrical P-6
P.H. Winneman, Asst.-Engineer, Civil P-4
1 Secretary CAF-5

MECHANICAL BRANCH

Directs the preparation of plans, designs, specifications and estimates in connection with mechanical engineering activities. Prepares special studies and acts as consultant to other divisions of the office. Directs operation of irrigation pumping and irrigation water distribution systems in the Vernita and Hanford Areas. Directs the operation and maintenance of the White Bluffs ice and cold storage plant. Directs the maintenance of buildings in the 3000 Area. Responsible for minor construction and maintenance in connection with all buildings, equipment and functions assigned to this office.

J.W. KUSSEK, Chief-Engineer (Mechanical) P-5
R. J. Gidney, Asst. - Engineer (Mechanical) P-3
1 Vacancy, Clerk CAF-2

CIVIL ENG'R. BRANCH

Directs the preparation of plans, specifications and estimates for work involving civil engineering assigned to the Engineering Div. Directs the supervision and/or inspection of such work as directed by higher authority. Acts as consultant on problems of an engineering nature.

L. M. REITH, Chief-Engr. (Civil) P-4
1 Engineer (Civil) P-3
1 Superintendent (Constr.) P-3

OFFICE ENGINEER

Requisitions, receives and distributes plans, specifications, photostats, engineering records. Assembles and compiles quarterly budget to cover activity of Engineering and Maintenance Division. Compiles and maintains record of work orders and construction projects, routes through office and submits to District for approval as required. Maintains records and files of plans, specifications, contracts and documents pertaining to the Engineering Division. Maintains property account for Engineering Division.

F. W. MILDISH, Chief - Engineer (Civil) P-4

MINOR CONSTR. & MAINT. SECTION

Responsible for operation of 3000 Area maint. shop, including operation and repair of all mech. shop equipment. In charge of all maintenance and minor construction, including carpentry, plumbing, machine work, electrical, etc.

E. B. WORKMAN, Chief-Maint. Foreman \$214 p.h.

1 Foreman, Constr. & Maint. \$214
2 Electricians 1.88
1 Mechanic, Sr. 1.94
2 Plumber-Steamfitters, Sr. 1.94
1 Carpenter, Sr. 1.94
1 Carpenter, Sr. Vacancy 1.94
1 Welder, Mechanic 1.82
3 Electrician, Linemen 1.88
4 Mechanics, General 1.82
1 Mechanic, Gen., Vacancy 1.82
2 Plumber-Steamfitters 1.82
3 Carpenters, Field & Shop 1.82

IRRIGATION MAINT. & COLD STCR. SEC.

Services, maintains, operates and repairs water pumps, keeping tanks full and maintaining line pressure for fire protection at White Bluffs; chlorinates water and operates, repairs and maintains ice plant to produce cold storage temperatures for food and manufacturing use.

B. M. MOORE, Chief-Superintendent P-3
1 Mechanic, Sr. - Vacancy \$1.94
1 Mechanic, General 1.82
7 Refrigeration Opers. 1.59

SAFETY BRANCH

(SEE SHEET #5)

COMMUNITY MANAGEMENT BRANCH

(SEE SHEET #5)

COMMUNICATIONS BRANCH

(SEE SHEET #5)

INSIDE ELECTRICAL BRANCH

Inspects installed electrical equipment in government operated plant, makes special installations as required. Prepares special engineering studies and assignments. Directs salvage operations to recover electrical and other equipment in Central Shops, Hanford and other areas.

C. H. SHEPHERD, Chief-Engineer, Electrical P-5
1 Engineer, Electrical P-3
1 Supt., Electrical P-3
1 Inspector, Electrical SP-8
7 Mechanics, Gen'l. \$1.82 p.h.
10 Mechanic, Helper, Gen. 1.33 p.h.
3 Mech., Helper, Gen., Vacancy 1.33

ELECTRICAL INSTR. & TRANS. BRANCH

Responsible for operation, patrol, maint. and new construction on outside lines and substations operated by Government forces. Responds to trouble calls on lines and remote points on Government operated facilities.

A. J. LECTUS, Chief-Supt. (Elect.) P-3

3000 AREA SECTION

Responsible for operation and maint. of 5 high pressure boilers. Operation of well pumps, booster pumps, chlorinator and sewer lines at 3000 Area. Operation of weather instruments. Responsible for tool room and obtaining and disbursing materials and supplies.

JOHN W. RIDER, Chief-Mech, Sr. \$1.94
1 Mech, Sr. 1.94
1 Mech., Gen'l. 1.82
11 Firemen, Boiler 1.33
2 Firemen, Boiler, Vacancy 1.33

ORGANIZATION CHART
MANHATTAN DISTRICT

UNIT *Manhattan District*

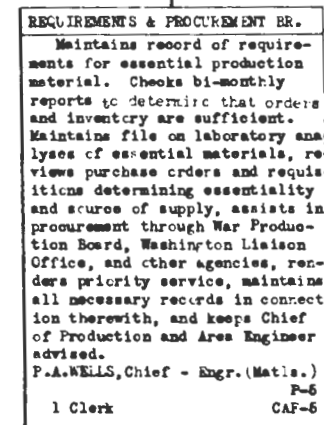
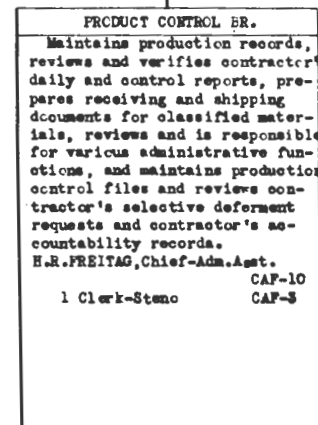
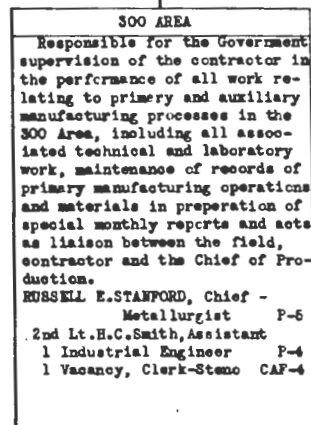
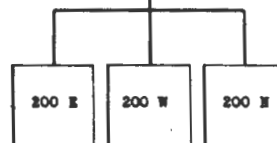
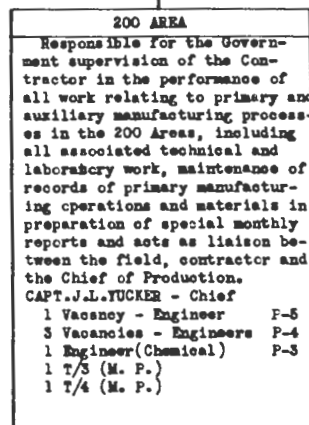
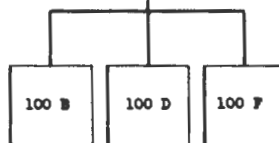
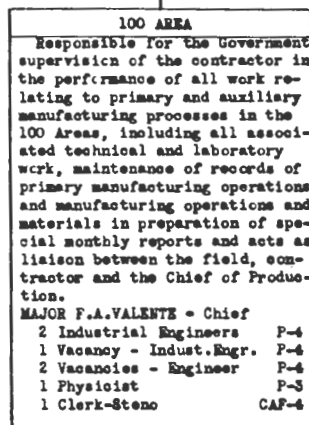
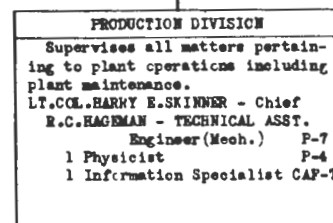
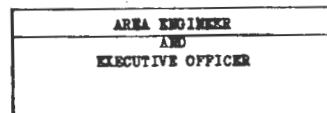
SUBMITTED *Edmund J. Clark* DATE *3 Oct. 1944*
Lt. Col. Frederick J. Clark, Area Engineer

RECOMMENDED _____ DATE _____

APPROVED *Edmund J. Clark* DATE *3 Oct. 44*

PERSONNEL

OFFICERS - 4
 ENL - 2
 P - 9
 S P -
 CAF - 5
 CPC -
 MISCL -
 VAC - 7
 TOTAL - 27



ORGANIZATION CHART
 MANHATTAN DISTRICT

UNIT Hanford Engineer Works

SUBMITTED *Frederick J. Clarke* DATE 3 Oct. 1946
 Lt. Col. Frederick J. Clarke, Area Engineer
 RECOMMENDED _____ DATE _____
 APPROVED *Frederick J. Clarke* DATE 5 Oct. 46

PERSONNEL

OFFICERS 22
 ENL. 237
 P. 2
 S. P. 16
 CAF 16
 OPC 11
 MISCL. 11
 VAC. 11
 TOTAL 288

AREA ENGINEER	
LT. COL. FREDERICK J. CLARKE	
1 Secretary	CAF-6
EXECUTIVE OFFICER	
MAJOR WILLIAM L. SAPPER	
LT. C. E. FILIPI - ADJUTANT	
1 Vacancy, Clerk-Steno	CAF-4

ASSISTANT
MAJOR J. E. TRAVIS

MILITARY INTELLIGENCE DIVISION
CAPTAIN P. B. MCUNTOY, Chief
CAPTAIN T. A. STERLING, Deputy

INVESTIGATION BRANCH	
Conducts and supervises the investigative, S.M.I., Censorship, and Laboratory of the Intelligence Office. Investigates alleged violations of Espionage and Sabotage statutes by project employees. Investigates violations by persons residing within project boundaries. Maintains liaison with P. B. I., C. W. I., etc. Reviews and examines case reports of employees.	
CAPTAIN J. M. HULL, Chief	
2 Intelligence & Security Officers	CAF-11
1 Vacancy - Investigator	CAF-11
2 Vacancies - Investigators	CAF-9

PLANT & SHIPMENT SECURITY BRANCH	
Directs and assists in establishment, operation, and maintenance of transportation system for delivery of essential materials to destinations. Initiates and personally maintains security measures necessary to materials enroute. Maintains inspection and repair program for vehicles utilized in transportation. Directs, supervises, aids and assists plant management in physical security of Prime Contractors patrol force. Prepares formal survey of plants at the various Class A and B Installations at H.E.W. and elsewhere.	
CAPTAIN J. F. COFFS, Chief	
3 1st Lts.	CAF-9
2 Inspectors (Plant Protection)	CAF-9
1 Vacancy - Inspector (Plant Protection)	CAF-9
1 Vacancy - Clerk	CAF-4

PERSONNEL CLEARANCE, GUARD AND RANGE BRANCH	
Responsible for proper functioning of clearances. Maintains liaison between Federal and State Investigative bodies necessary for conducting investigations. Supervises and maintains all Military Intelligence office files and property records. Responsible for Range & Trng. facilities of Civilian Guard.	
1st. Lt. D. A. KESIN - Chief	CAF-5
1 Clerk-Typist	CAF-2
1 Vacancy, Clerk-Typist	CAF-2
1 Clerk-Typist	CAF-2
1 Telephone Operator	CAF-3
1 Clerk-Steno	CAF-3
3 Vacancies, Clerk-Typist	CAF-2
1 Patrolman	CPC-7

MILITARY POLICE	
Responsible for proper coordination of all affairs involving M.P. Detachment #4.	
CAPTAIN W.Y. BUCK, COMMANDING OFFICER	
4 Captains	1 T/S
3 1st Lts.	16 Sgts.
1 2nd Lt.	5 T/S
1 M/Sgt.	28 Cpl.
1 1st Sgt.	16 T/S
9 T/Sgts.	100 Ptes.
8 S/Sgts.	55 Ptes.

LABOR AND PUBLIC RELATIONS DIV.	
Reviews all Labor Relations Matters and advises Area Engineer of policies and procedures which are pertinent thereto. Responsible for the control and release of all publicity.	
MILTON R. CYDELL, Chief - Labor and Public Relations Officer, CAF-11	
1 Clerk	CAF-4

MEDICAL
General supervision of all medical facilities. Responsible for proper functioning of Industrial and Internal Medicine, Public Health, etc.
CAPTAIN HUGH DWYER, Chief

CONSTRUCTION DIV.	
JOHN T. FLANAGAN, Chief - Supt. (Constr.)	P-3

LEGAL	
Renders legal advice to Area Engineer and contractor on all activities, directs handling of litigation, maintains liaison with Federal, State and Contractor officials regarding methods of administering and enforcing laws and regulations, including problems of Federal & State jurisdiction, police power, taxation, labor, contractor, claims, workmen's compensation, insurance, price and wage regulations; acts as Claims Officer and Legal Assistance Officer; supervises and directs activities of Contracts & Claims and Insurance Section.	
ROGER I. HARRIS, Chief, Attorney	P-6
1 Clerk-Steno.	CAF-6

CONTRACTS & CLAIMS	
Prepares prime contracts, reviews all subcontracts, acts as advisor to contracting officer and prime contractor on contracts, subcontracts and miscellaneous agreements; serves as assistant to Claims Officer and Legal Assistance Officer; maintains liaison with and coordinates activities of various departments of Prime Contractor responsible for preparation of all sub-contracts and agreements.	
WILLIAM M. BRYANT, Chief, Attorney	P-4

INSURANCE	
Administers and supervises project insurance program; advises A.E. as to adequacy of coverage, insurance cost; supervises investigation of all liability and compensation claims and assists in preparing defenses thereto; reviews and audits activities of State Dept. of Labor and Industries and of Travelers Insurance Co. to insure regularity of proceedings, correctness of payments and security protection; maintains liaison with insurance carriers; maintains claims file, indices and records in regard to all insurance matters; (conducts periodic audits of records of Dept. of Labor and Industries and Travelers Insurance Co.)	
1 VACANCY, Chief, Adm. Asst.	CAF-11
1 Clerk-Steno.	CAF-2

PRODUCTION	ENGINEER & MAINT.	ADMINISTRATIVE
(SEE SHEET #6)	(SEE SHEET #4)	(SEE SHEET #6)

ORGANIZATION CHART
MANHATTAN DISTRICT

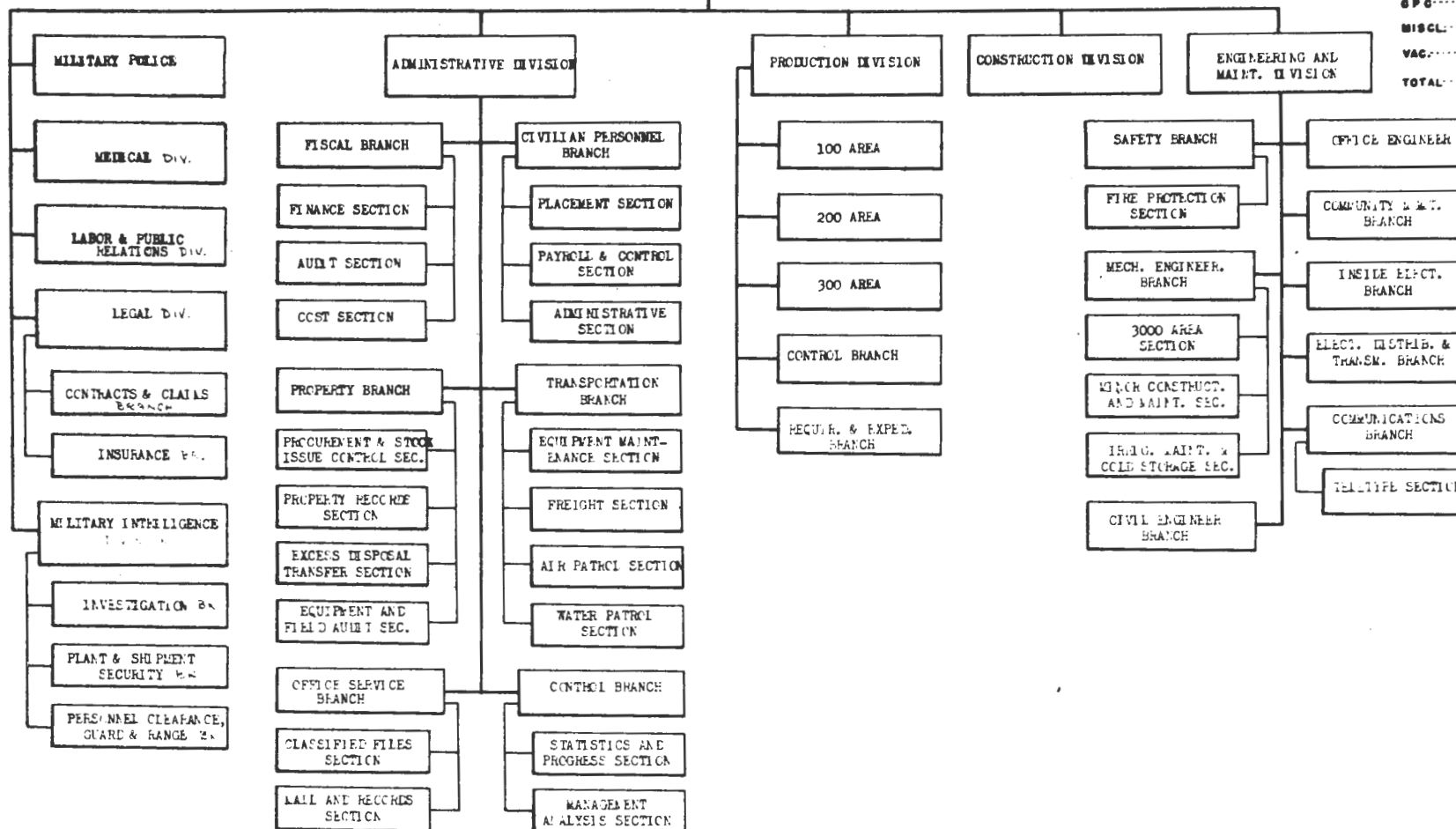
UNIT Hanford Engineer Works

SUBMITTED BY Lt. Col. Frederick J. Clarke, Area Engineer
 RECOMMENDED BY DATE
 APPROVED BY DATE

PERSONNEL

OFFICERS 30
 ENL. 239
 P 32
 S P 4
 CAP 111
 SP 32
 MISCL 80
 VAC 34
 TOTAL 603

AREA ENGINEER
 EXECUTIVE OFFICER



ORGANIZATION CHART
 MANHATTAN DISTRICT

UNIT Manford Engineer Works

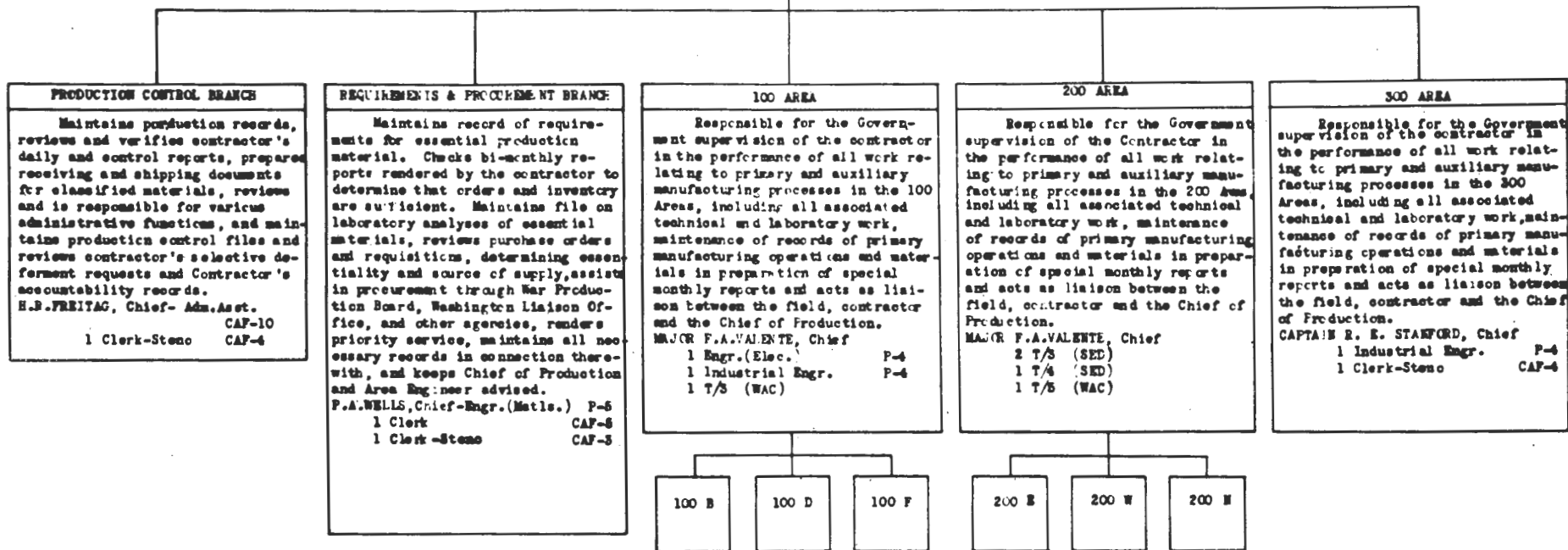
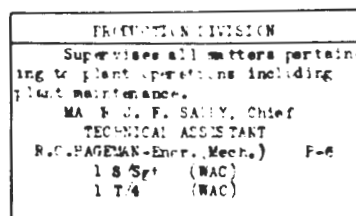
SUBMITTED 2 DATE 3 Oct. 1944
 Lt. Col. Frederick J. Cl. Fko, Area Engineer

RECOMMENDED DATE

APPROVED DATE 15 Feb 45

PERO

OFFICERS 4
 ENL. 2
 P. 6
 S P. 5
 CAP. 5
 CPC.
 MISCL.
 VAC.
 TOTAL 21



**ORGANIZATION CHART
 MANHATTAN DISTRICT
 H.E.P.**

UNIT Production Division

SUBMITTED *P. T. Mutchler* 1st July 1945
P. T. Mutchler, Colonel, C of S

RECOMMENDED _____ DATE _____

APPROVED _____ DATE _____

PER: 14

OP. ENG. 1

ENL. 1

P. 4

S. P. 2

CAF. 24

SPC. 3

MISCL. 20

VAC. 1

TOTAL 14

PROPERTY SECTION

Supervises and directs the receipt, recording, inventory, storage and salvage of property, and the maintenance of all records pertaining thereto. Supervises all operations in connection with land, water and air transportation by Government-owned facilities. Issues and transportation permits and movement bills of lading. Supervises repair and maintenance of all Government-owned equipment.

Captain J. L. Smith, Chief

1 Lt. (CAF)

1 Clerk (CAF-5)

REPAIR SECTION

Supervises transportation garage; directs all repairs and replacements, maintenance of supplies, gas, oil and grease; is responsible for all records pertaining to the garage.

C.A. MURKIN, Chief - Mech. "A" \$1.75 p/h

P.M. KRAY, Asst.-Storekeeper (CAF-6)

10 Mechanics "E" 1.50 p/h

3 Oilers 1.50 p/h

1 Auto Attendant 1.10 p/h

2 Laborers 1.00 p/h

NEW SHIPMENTS & FILES SECTION

Supervises a unit of incoming freight shipments; issuance of Government Bills of Lading, files, correspondence and routine clerical work relevant to transportation matters.

A. J. HARRIS, Chief - Asst. Asst. (CAF-6)

1 Clerk - Store (CAF-6)

PROPERTY SECTION

Responsible to the Property Officer for planning and directing work of the Property Section and coordinating functions of the various units of the Property Section with other divisions of this Office and the Contractor.

R.A. HULLY, Chief - Asst. Asst. (CAF-6)

1 Lt. (CAF-7)

EQUIPMENT MAINTENANCE SECTION

Supervises maintenance of all equipment; directs inspection of same; records and inspects reports; authorizes purchase of parts as required.

C.J. HADNER, Chief-Supt. (Equip) P-4

N.P. TAYLOR, Asst. Chf.-Supv. Aud. (T&E)

1 Supt. (Equip.) P-3

1 Insp. (Equip.) SP-6

1 Clerk (CAF-4)

1 Clerk - Store (CAF-3)

MOTOR POOL

Directs operation of motor transportation pool; dispatches chauffeurs and truck drivers as required; orders repairs of equipment as needed.

C. ARMS, Chief-Trans. Form \$1.35 p/h

4 Truck Drivers (Light Duty) 1.10 p/h

1 Truck Driver (Serv. & Supl.) 1.25 p/h

ACCOUNTS & CLERK SUB-SECTION

Supervises the maintenance of all property records, checks with cards and files all incoming reports and shipping documents, issues all shipping documents, maintains shipping records, and maintains necessary records in connection therewith.

L.T. YANCY, Chief-Asst. (CAF-7)

1 Clerk (CAF-6)

1 Clerk - Store (CAF-6)

2 Clerks (CAF-4)

1 Storekeeper (CAF-3)

1 Clerk-Typist (CAF-3)

1 Clerk-Typist (CAF-2)

EQUIPMENT & FIELD UNIT SUB-SECTION

Audits contractor's property records, reviews and maintains records of production equipment, material handling equipment, cafeteria and laboratory equipment, and makes periodic inspection and inventories.

C. L. FRISWELL, Chief-Clerk (CAF-6)

2 Clerks (CAF-6)

1 Storekeeper (CAF-5)

1 Clerk (CAF-3)

WATER PATROL

Directs water patrol of river adjacent to Project; maintains minor repairs of equipment.

F.B. SMITH, Chief-Mechanic "C" 1.15 p/h

2 Operators (Mtr.) 2300 p/h

1 Operator (Mtr.) 2600 p/h

AIR PATROL

Supervises air patrol of project and vicinity.

F.B. SMITH, Chief-Airplane Pilot

1 Airplane Pilot P-3

1 Airplane Pilot P-3

1 Airplane Pilot P-3

RECEIVING & ISSUE SUB-SECTION

Receives all materials and supplies purchased by the Government, inspects quality and quantity and prepares receiving reports. Maintains stock account, prepares cost forms 4 and 4A. Maintains warehouse, issuing and receiving property and supplies and keeps all necessary records pertaining thereto.

F.B. SMITH, Chief-Storekeeper (CAF-7)

1 Storekeeper (CAF-6)

1 Insp. (Mtr.) SP-6

2 Clerks (CAF-4)

1 Clerk (CAF-3)

2 Clerk-Typists (CAF-3)

1 Truck Driver (S&S) 1.25 p/h

2 Laborers 1.00 p/h

ORGANIZATION CHART MANHATTAN DISTRICT E.E.W.

UNIT Transport Property Bn., Admin. Div.

SUBMITTED 10/11/44 DATE 10/11/44

RECOMMENDED 10/11/44 DATE 10/11/44

APPROVED 10/11/44 DATE 10/11/44

PERO
OFFICERS
EUL
P
SP
CAF
SP
MISC
VAC
TOTAL 22

Prescribe policies and procedures for operation of the division with respect to reimbursement of expenditures based on review of contracts, applicable regulations and working papers as well as discussions with members of the division, the contractor's staff and other employees and officers of the Area Engineer's Office. Furnish such information as is requested by the General Accounting Office staff with respect to reimbursements. The Chief Project Auditor devotes his time principally to matters of procedure and policy and to matters between the division and the contractor, the Assistant Chief Project Auditor administers affairs within the Division and maintains liaison with the General Accounting Office field staff.

J. J. MURPHY, Chief - Chief Project Auditor CAF-12
F. A. HOUGLAKI, Asst. - Asst. Chief Proj. Auditor CAF-10

SPECIAL ASSISTANTS
Review of contractor's and sub-contractors' procedures, audits their accounts to determine all revenue has been passed on to the Government; special auditing investigations.
O. B. YOUNGLING, Chief, Auditor, CAF-8

PAY ROLL AUDIT SUB-SECTION
Audits CPFF pay roll and related rolls; travel and transfer agreement vouchers. Reviews monthly salaries for conformity with regulations.
F. P. TRACY, Chief - Clerk CAF-5
1 Clerk CAF-4
1 Comp. Operator CAF-4

MATERIALS SUB-SECTION
Audits CPFF vouchers covering purchases of materials and transportation charges on same.
J. C. WARD, Chief - Supv. Aud. CAF-8
3 Clerks CAF-4
1 Clerk CAF-3

INSURANCE SUB-SECTION
Audits insurance vouchers and reviews all matters pertaining to insurance.
W. A. LUNCH, Chief - Adm. Asst. CAF-5

FIELD TRIPS
Spot check contractor's receiving and shipping. Spot checks attendance of contractor's employees.
J. M. LYNN, Chief - Inspector (Mtl's) SP-8
1 Insp. (Mtl's) SP-6
1 Insp. (Insp.-Time) SP-6
1 Clerk CAF-3

FISCAL - PROCUREMENT REVIEW SUB-SECTION
Reviews and approves CPFF purchases. Reviews lump sum subcontracts and audits requests for payments thereunder. Control of requests for reimbursement and transmittal of same to Finance Officer for payment. Maintain voucher register. Maintain record of cash receipts. Bank reconciliation of CPFF bank accounts. Proof of payment all reimbursement vouchers.
P. L. BAYLESS, Chief - Adm. Asst. CAF-9
SUBCONTRACTS, VOUCHERS, INVOICES AND CASH RECEIPTS
G. V. BEAGAN, Chief - Clerk CAF-5
2 Clerk CAF-4
BANK RECONCILIATION AND PROOF OF PAYMENT
C. M. RUTON, Chief - Clerk CAF-6
1 Clerk CAF-4

**ORGANIZATION CHART
MANHATTAN DISTRICT
E.E.E.**

UNIT Audit Section, Fiscal Br., Admin. Div.

SUBMITTED *John H. ...* DATE 1 July 1944
P. F. Matthews, Colonel, C. E. E.

RECOMMENDED DATE
APPROVED DATE

PER IL
 OFFICERS 1
 ENL.
 P.
 S P.
 CAF. 17
 CPG.
 MISCL.
 VAC.
 TOTAL 18

FISCAL BRANCH
 General supervision of Division
 Coordinates functions, procedures
 and policies between sections and
 between Divisions and other branches
 of Area Engineer's Office and Prime
 Contractor.
 CAPTAIN M. M. FARRETT, Chief
 1 Secretary CAF-5
 1 Clerk-Typist CAF-3 ✓

COST SECTION
 Coordinates the cost account-
 ing procedures of the CPFF Prime
 Contractor with the Government
 accounting; confers with CPFF Cost
 Engineers relative to accounting
 problems, both construction and pro-
 duction; reviews CPFF cost reports
 and general trial balances; general
 supervision of all Government cost
 accounting functions pertaining to
 this project; compiles data for
 final cost reports; approves all pro-
 ject cost reports; and related cost
 accounting duties. Generally the
 chief is concerned with external
 matters primarily, where the
 assistant is confined to internal
 matters.
 B. M. BOWEN, Chief - Accountant CAF-6
 P. K. BUSHNELL, Asst. Accountant CAF-8

AUDIT SECTION
 (See Sheet No. 7)

FINANCE SECTION
 General supervision and re-
 sponsibility for all activities of
 the section. Final audit of all
 commercial, 1080's, forms 65, travel
 and mileage vouchers. Prepara-
 tion of all correspondence related
 to Fiscal work including replies to
 exceptions from Finance Officer and
 General Accounting Office. Inter-
 preting of laws and regulations and
 advising other sections accordingly.
 A. LILAB-S, Chief - Accountant CAF-9
 P. A. CLARK, Asst. - Accountant CAF-8

**ALLOCATION, MATERIAL & RECON-
 CILIATION SUB-SECTION**
 Allocates costs on Government
 material and equipment transferred
 without reimbursement, both in-coming
 and outgoing shipments; reviews
 estimated prices on above items and
 authorizes the CPFF Prime Contract-
 or to include in their cost records
 furnishes the CPFF with information
 on transferred items which are re-
 imburseable; maintains receiving
 report file of transferred material;
 prepares cost vouchers on all out-
 going shipments; reconciles CPFF
 Prime Contractor's Construction and
 Production cost balances with Gov-
 ernment control records; and related
 cost accounting functions.
 W. L. ROBERT, Chief - Accountant CAF-7
 1 Clerk CAF-4

REPORTS & RECORDS SUB-SECTION
 Preparation of monthly cost
 reports; compilation of cost data;
 post all cost vouchers to control
 and detail ledger accounts; maintain
 control ledgers; maintain expendi-
 ture and accounts payable accounts;
 prepare schedules of freight charges;
 reconcile accounts payable balances
 with Finance Section; distributes
 Government payroll costs; prepares
 cost vouchers on contractual reim-
 bursements, commercial payments,
 and direct government expenditures;
 and related cost accounting duties.
 P. K. BUSHNELL, Chief - Accountant CAF-8
 1 Clerk CAF-4
 1 Clerk-Typist CAF-3

ACCOUNTS PAYABLE & VOUCHER SUB-SEC.
 Maintains Accounts Payable
 files and Kardex. Auditing and
 matching Receiving Reports, Purchase
 Orders and Invoices. Preparation
 and auditing all commercial vouchers.
 D. J. WARD, Chief - Clerk CAF-6
 1 Clerk-Typist CAF-3
 1 Clerk CAF-4

TRAVEL SUB-SECTION
 Preparation and auditing of
 all per diem and mileage vouchers
 for civilian and military personnel.
 Preparation of all Travel Orders
 and Officers' Pay and Allowance
 vouchers.
 L. E. LUTHE, Chief - Clerk CAF-4

BOOKKEEPING SUB-SECTION
 Maintains all fiscal accounts
 in the Area Office. Control of ex-
 penditures and obligations and ap-
 portionments. Preparation of re-
 ports for the District Office and
 maint. of all files and records.
 P. M. BENNY, Chief - Accountant CAF-7
 1 Clerk CAF-4

**ORGANIZATION CHART
 MANHATTAN DISTRICT
 H.E.W.**

UNIT Fiscal Branch, Administrative Division

SUBMITTED : DATE 1 July 1946
 F. T. Matthias, Colonel, C of E
 RECOMMENDED : DATE
 APPROVED : DATE

PERSONNEL

OFFICERS

ENL.....

P.....

S P.....

CAF..... 32

CPO.....

MISCL.....

VAC.....

TOTAL..... 32

FISCAL BRANCH

Responsible for the proper functioning and coordination of the work of Audit, Cost and Finance Sections. Supervision of required accounting, reporting, budgeting, estimating and all other financial administration and control over the use and custody of appropriated funds. Advises with the heads of the appropriate operating units at the installation in respect to fiscal requirements and initiates action to secure, augment, or adjust appropriated funds required for accomplishment or furtherance of required work or service at the installation. Supervision of all required or necessary auditing functions at the installation, including cost-plus-fixed-fee contracts.

A. LIMARES, Chief - Fiscal Officer
1 Clerk-Steno

CAF-11
CAF-4

FINANCE SECTION

General supervision and responsibility for all activities of the section. Final audit of all commercial, 1080's, Form 65, travel and mileage vouchers. Preparation of all correspondence related to Fiscal work including replies to exceptions from Finance Officer and General Accounting Office. Interpreting of laws and regulations and advising other sections accordingly.

PAUL A. CLARK, Chief-Accountant CAF-9
1 Clerk-Typist CAF-3

ACCOUNTS PAYABLE & VOUCHER SUB-SEC.

Maintains Accounts Payable files and Index. Auditing and matching Receiving Reports, Purchase Orders and Invoices. Preparation and auditing all commercial vouchers.

D. J. WARD, Chief - Clerk CAF-6
1 Clerk-Typist CAF-3

BOOKKEEPING SUB-SEC.

Maintains all fiscal accounts in the Area Office. Control of expenditures and obligations and apportionments. Preparation of reports for the District Office and maintenance of all files and records.

PAUL H. BENOY, Chief-Accountant CAF-7
1 Clerk CAF-4

TRAVEL SUB-SEC.

Preparation and auditing of all per diem and mileage vouchers for civilian and military personnel. Preparation of all Travel Orders and Officers' Pay and Allowance vouchers.

E. J. MOORE, Chief - Clerk CAF-4

AUDIT SECTION

Prescribe policies and procedures for operation of the Section with respect to reimbursement of expenditures based on reviews of contracts applicable regulations and working papers as well as discussions with members of the Section, the contractor's staff and other employees and officers of the Area Engineer's Office. Furnish such information as is requested by the General Accounting Office staff with respect to reimbursements. The Chief Project Auditor devotes his time principally to matters of procedure and policy and to matters between the Section and the Contractor. Reviews and approves CPFF purchases. Reviews lump-sum subcontracts and audits requests for payments thereunder. Reviews subcontract cancellation for compliance with Joint Termination Regulations. Reviews contractor's and subcontractors' procedures, audits their accounts to determine all revenue has been passed on to the Government; maintains record of cash receipts; special auditing investigations.

F. L. BAYLESS, Chief - Project Auditor CAF-10
1 Administrative Assistant CAF-7
1 Auditor, Fiscal CAF-7
1 Clerk CAF-4

MISC. AUDIT SUB-SECTION

Control of requests for reimbursement and transmittal of same to Finance Officer for payment. Final audit review of all reimbursement vouchers for form and content. Reviews Purchase Orders drawn against supply contracts for compliance with contract terms. Maintain voucher registers. Bank reconciliation of CPFF bank accounts. Proof of payment all reimbursement vouchers.

C. M. ACTON, Chief - Clerk CAF-6
1 Clerk CAF-5
1 Clerk CAF-4

MATERIAL AUDIT SUB-SEC.

Audits CPFF vouchers covering purchases of materials and transportation charges on same.

J. C. VARNUM, Chief - Supv. Aud. (Matls.) CAF-8

PAY ROLL AUDIT SUB-SEC.

Audits CPFF payroll and related rolls, travel and transfer agreement vouchers. Reviews monthly salaries for conformity with regulations.

F. P. TRACY, Chief - Supv. Aud. (Pay roll) CAF-6
1 Clerk CAF-6
2 Clerks CAF-4
1 Clerk CAF-3

FIELD CHECK SUB-SEC.

Spot checks contractor's receiving and shipping. Spot checks attendance of contractor's employees.

J. M. LYNCH, Chief - Clerk CAF-6
1 Checker CAF-4
2 Clerks CAF-5

COST ACCOUNTING SECTION

Responsible for proper application of cost accounting procedures of Prime Contractor and Government; acts as Government liaison agent in matters pertaining to costs and cost accounting; confers with contractors relative to accounting problems; reviews Contractor's cost reports, and general ledger trial balances; general supervision of all cost accounting functions pertaining to this project; responsible for compilation and submission of budget estimates covering project activities; compiles data for use in final cost reports; approves all project cost reports; and related cost accounting duties.

B. W. BOREN, Chief - Accountant CAF-9
1 Clerk-Stenographer CAF-4

BUDGET CONTROL, REVIEWS, AND SPECIAL REPORTS SUB-SECTION

Responsible for the compilation of cost data covering working estimates and preparation of Project Budget Estimate; reviews methods used by CPFF Prime Contractor in maintaining cost accounting records; reviews cost estimates submitted by Contractor and ascertains if costs are properly accumulated against individual estimates; responsible for contacting field or installation employees to ascertain that proper costing of time and materials is being accomplished; responsible for determination of values to be used on materials, supplies, and equipment transferred from the project; compiling data for special reports required for the Cost Section.

IRA D. HARTMAN, Chief - Accountant CAF-8

ACCOUNTING, ALLOCATION, AND REGULAR REPORTS SUB-SECTION

Responsible for proper allocation of cost codes to various documents used as basis for accumulating costs; posting all cost vouchers to control and detail ledger accounts; maintaining expenditure and accounts payable accounts; reconciling accounts payable and expenditure records with Finance accounts; preparation of cost vouchers; reconciling stock accounts; furnishing the CPFF Prime Contractor cost data on Government procured and transferred items; preparation of regular monthly cost reports; reconciling warehouse stock accounts; and related cost keeping duties.

WALTER L. ROEYER, Chief - Accountant CAF-7
1 Clerk CAF-4
1 Clerk CAF-5

ORGANIZATION CHART

MANHATTAN DISTRICT

UNIT Hanford Engineer WorksSUBMITTED 10/1/46 DATE 3 Oct. 1946RECOMMENDED Lt. Col. Frederick J. Clarke, Area EngineerAPPROVED 10/1/46 DATE 15 Oct. 1946

PERSONNEL

OFFICERS

ENL.....

P.....

S P.....

CAP..... 36

CPO..... 14

MISC..... 2

VAC..... 2

TOTAL..... 52

ADMINISTRATIVE DIVISION

ACCOUNTABLE PROPERTY OFFICER

ASST. CHIEF OF PROP. BRANCH INSG. AGENT

EQUIPMENT & FIELD AUDIT SECTION

Auditing of all property records on all classes of property. Verifying the existence of property, checking the completeness of property records and testing the efficiency of Contractor's consumption of non-catalogue property (Class "C" and Class "B"). Maintenance of all inventories on perpetual inventory basis of all areas controlled and operated which do not come under control of prime contractor, i.e., Harford, Vernita, Riverland, Midway, 3000 Area, Prison Camp, Priest Rapids and White Bluffs, and off-project accounts.

RICHARD E. RAFT, Chief - Property Auditor

CAP-2

PERPETUAL INVENTORY SUB-SECTION

Maintenance of all inventories on perpetual inventory basis of all areas controlled and operated which do not come under control of prime contractor, i.e., Harford, Vernita, Riverland, Midway, 3000 Area, Prison Camp, Priest Rapids, White Bluffs and off-project accounts.

LEWIS E. STUBBS, Chief - Clerk

CAP-5

5 Clerks

CAP-4

1 Clerk

CAP-3

4 Clerk-Typists

CAP-2

FIELD AUDIT SUB-SECTION

Auditing of all property records on all classes of property. Verifying the existence of property, checking the completeness of property records and testing the efficiency of Contractor's consumption of non-catalogue property (Class "C" and Class "B").

LEWIS E. STUBBS, Chief - Property Auditor

CAP-5

3 Clerks

CAP-5

1 Clerk-Typist

CAP-2

PROCUREMENT & STOCK ISSUE CONTROL SECTION

Supervises all procurement activities assigned and interprets law and regulations pertaining thereto. Prepares procurement instruments to effect procurement under mandatory contracts, and in the open market. Reviews prime contractor's requisitions and records of purchases for compliance with Government procurement policies and regulations.

R. M. METZEL, Chief - Administrative Asst.

CAP-9

1 Administrative Assistant

CAP-7

1 Clerk-Steno

CAP-3

1 Clerk-Typist

CAP-3

STOCK ISSUE CONTROL SUB-SECTION

Maintenance and control of materials and supplies procedures by means of material orders from prime contractor. Spot checks all materials received by prime contractor; the inspection of inbound shipments. Prepares material orders on Contractor's stores for property required by Military and Government activities. Prepares purchase requisitions for required property not in stores. Supervises delivery of property to Military and Government activities. Inspects receipt of inbound shipments as required.

E. H. JACK, Chief - Administrative Asst.

CAP-7

1 Clerk

CAP-6

1 Inspector (Matl.)

CAP-6

1 Inspector (Matl.)

CAP-4

2 Clerk-Typists

CAP-2

1 Clerk - Vacancy

CAP-2

1 Storekeeper

CAP-2

2 Laborer

\$1.22 ph.

EXCESS DISPOSAL TRANSFER SECTION

Responsible for removal of all shipments from this area which are shipped by prime contractor or the Gov't. Supervises preparation of orders for the contractor to ship. Assigns voucher numbers to Shipping Orders. Checks all materials and equipment arriving at Disposal Center. Packs and ships excesses, and stores items which are not excess but will be held for residual camp.

L. M. J. SULLIVAN, Chief - Prop. Dis. Officer

CAP-9

1 Property Disposal Officer

CAP-4

1 Clerk-Typist

CAP-3

1 Clerk-Typist

CAP-2

2 Clerk-Typists

CAP-1

HARFORD AREA SUB-SECTION

Packing and shipping excesses in Harford Area and storing items which are not excess but are held for residual camp; clearing up construction property left at White Bluffs, Cold Creek, etc., storing machines in Harford Area, and inspection of same periodically.

A. C. (H. H. H.), Chief - Storekeeper

CAP-6

1 Storekeeper

CAP-4

2 Carpenters, Shop

\$1.62 ph.

1 Truck Driver (Trailer Type)

\$1.76 ph.

1 Truck Driver (Medium)

\$1.65 ph.

7 Laborers, Warehouse

\$1.22 ph.

1 Laborer, Warehouse (Vacancy)

\$1.22 ph.

ORGANIZATION CHART
MANHATTAN DISTRICT

UNIT Harford Engineer Works

SUBMITTED..... DATE 3 Oct. 1946

Lt. Col. Frederick J. Clarke, Area Engineer

RECOMMENDED..... DATE

APPROVED..... DATE

PERSONNEL

OFFICERS 2
 ENL.
 P.
 S P. 3
 CAP. 24
 CPO.
 MISCL.
 VAC. 2
 TOTAL 31

ADMINISTRATIVE DIVISION

ACCOUNTABLE PROPERTY OFFICER

Supervises and directs the recording, inventory, storage, salvage and disposal of Property and the maintenance of all necessary property accounts. Supervises and directs the maintenance of all property accounts maintained by Government Property Office and by contractor. Supervises the audit of contractor's property records. Issues instructions as necessary for shipment of property. Supervises receipt, storage and disposal by contractor of Government property.

CAPTAIN W. J. MORRILL, Chief

1 Clerk-Steno
 1 Clerk-Typist

CAF-4
 CAF-3

SPECIAL ASSISTANT

Immediately responsible to the Property Officer for the performance of special assignments and assists in supervision of inventory as directed by the Property Officer.
 2nd LT. LEC F. MCPHERT

ASSISTANT CHIEF OF PROPERTY BRANCH AND DESIGNATED AGENT

Responsible to the Property Officer for planning and directing work of Property Branch and coordinating functions of the various units of the Property Branch with other divisions of the office and prime contractor. Acts as Redistribution Officer to dispose of excess or surplus on this project.

BENTON A. DUNLEY, JR., Chief - Adm. Asst.

CAF-11

C. D. Friswold, Asst. - Adm. Asst.

CAF-9

1 Clerk-Steno

CAF-3

PROPERTY FIELD AGENT SEC.

(SEE SHEET #9)

PROPERTY RECORDS SECTION

Supervises maintenance of all property records, checks with cards and files all receiving receipts and shipping documents, issues all shipping documents on outgoing shipments. Supervises Military, Contractor, Real Estate and Off-Project Accounts.

JOHN T. HOGAN, Chief - Adm. Asst.

CAF-7

1 Vacancy, Clerk-Steno

CAF-3

EXCESS DISP. TRANS. SECTION

(SEE SHEET #9)

STOCK ISSUE CONTROL SECTION

(SEE SHEET #9)

MILITARY ACCOUNTS SUB-SECTION

Maintenance of register and files on all receiving receipts issued by Prime Contractor and preparation and maintenance of register on all incoming shipping documents. Filing and maintenance of register on all "FOCs" and "FOs" issued by prime contractor for military use.

MICHAEL A. FORTE, Chief - Clerk

CAF-5

1 Clerk

CAF-3

1 Clerk-Typist

CAF-3

1 Clerk-Typist

CAF-2

CONTRACTOR'S & OFF-PROJECT ACCOUNTS SUB-SECTION

Maintenance of register and files on all receiving receipts issued by Prime Contractor and preparation and maintenance of register on all incoming shipping documents. Filing and maintenance of register on all "FOCs" and "FOs" issued by prime contractors for contractors use. Maintenance of records on University of Washington and Trill, S.C. accounts.

JOYCE L. LANSBY, Chief - Clerk

CAF-5

1 Clerk

CAF-4

1 Clerk-Typist

CAF-3

6 Clerk-Typist

CAF-2

1 Vacancy, Clerk-Typist

CAF-2

REAL PROPERTY ACCOUNTS SUB-SECTION

Maintenance of records which refer to basic maps, plans and specifications of Buildings and Structures, Real Property and Installed Equipment.

WILLIAM L. FELTH, Chief - Clerk

CAF-6

1 Engineering Aide

SP-7

2 Engineering Aide

SP-6

3 Clerk-Typist

CAF-2

ORGANIZATION CHART
MANHATTAN DISTRICTUNIT Manford Engineer WorksSUBMITTED 10/1/46 DATES Oct. 1946RECOMMENDED Lt. Col. Frederick J. Clarke

DATE

APPROVED W. J. Morrell DATE 10/1/46

PERSONNEL

OFFICERS

ENL.....

P..... 3

S P.....

CAF..... 20

CPC.....

MISGL..... 5

VAC..... 2

TOTAL..... 30

ADMINISTRATIVE DIVISION

CIVILIAN PERSONNEL BRANCH

Plans and directs the civilian personnel program. Supervises and coordinates work performed in the branch sections. Maintains working relationships with operating offices for purposes of assistance, guidance and consultation on civilian personnel matters. Responsible for Administration of programs pertinent to employee morale. Responsible for matters pertaining to classification and wage administration. Conducts studies of causes of absences, grievances, and disciplinary actions. Conducts exit interviews. Prepares job descriptions of new and changed positions and recommends allocations for such positions by service, grade and title; makes recommendations for the correction of misallocations. Participates in locality wage surveys.

J. M. DE MILLE, Chief - Administrative Assistant CAF-9
1 Clerk-Typist CAF-2

TRANSPORTATION BRANCH

Supervises and directs activities of the four sections of the Transportation Branch. Issues all transportation requests and obtains travel reservations. Maintains close liaison with contractor and common carriers on all matters pertaining to transportation.

J. L. DICKSON, Chief-Adm. Asst. CAF-12
1 Clerk CAF-4
1 Truck Driver (Medium) \$1.05 p.h.

ADMINISTRATIVE SECTION

Performs routine processing of personnel actions for accessions, changes, and other personnel operations including efficiency ratings and reductions in force. Maintains central personnel (201) files and employee records. Prepares personnel reports as required. Maintains controls over positions and such controls over actions in process as may be required.

M. M. WELLS, Chief - Clerk CAF-6
1 Clerk-Typist, Vacancy CAF-6
1 Clerk-Typist CAF-2

PLACEMENT SECTION

Anticipates personnel requirements, and insures recruitment and selection of best qualified eligibles. Responsible for preparation and announcement of examinations for local board positions. Responsible for receipt, review and rating of applications. Establish and maintain registers of eligibles and examination files. Furnishes information to the general public on civil service matters.

T. P. MULLHOLLAND, Chief - Adm. Asst. CAF-8

EQUIPMENT MAINTENANCE SECTION

Supervises and directs the inspection of the care and use of approximately 1600 pieces of government-owned equipment and vehicles on the project. Establishes rates for rental of equipment to contractors and directs care of equipment in compliance with rental contract. Advises Procurement & Stock Issue Control Sec. in securing all types of equipment. Determines equipment that should be excessed or replaced. Screens requisitions for parts and accessories. Maintains equipment records.

G. J. WATKINS, Chief-Mechanical Adv. CAF-10
1 Supv. and (Tools & Equip.) CAF-6
1 Inspector (Gen. Equip.) CAF-4
1 Inspector (Gen. Equip.) CAF-4
1 Clerk-Typist CAF-2

FREIGHT SECTION

Responsible for directing movement of all incoming and outgoing freight by rail, express, and truck. Issues and maintains master file of Gov't bills of lading and handles all correspondence pertaining to transportation matters.

A. J. JEVVIS, Chief - Adm. Asst. CAF-8
1 Clerk-Typist CAF-1

AIR PATROL SECTION

Responsible for patrolling project and vicinity by air. Piloting military and civilian personnel to available transportation lines, i.e., Rail, Airlines, etc.

3 Airplane Pilots P-4
1 Laborer, Warehouse-Vacancy \$1.22 ph.

PAYROLL & CONTROL SECTION

Responsible for all functions covering Civilian payroll and control; the completion of necessary action on forms and papers in connection with appointments, separations, and general changes in employees' pay status, including bonds, tax, and retirement. Acts as War Savings Bond Officer.

S. S. BYERS, Chief - Clerk CAF-4

PAYROLL SUB-SECTION

Establishment and maintenance of individual earnings records for each employee and preparation of all records pertinent thereto

MARCIEL ROLPH, Chief - Clerk-Typist CAF-1

CONTROL SUB-SECTION

Responsible for preparation and maintenance of Payroll Certification Sheets, W. D. 80. Posts all changes to normal pay and deduction cards. Posts and maintains leave record cards.

F. D. LANDIS, Chief - Clerk CAF-4

WATER PATROL SECTION

Maintenance of water patrol and ferry for transport of equipment and personnel.

DONALD L. SMITH, Chief, Master (Tug-Class 2) \$1.75 ph
1 Master (Tug, Class 2) \$1.64 ph
2 Operators-Motor Boat \$1.44 ph

ORGANIZATION CHART
MANHATTAN DISTRICT

UNIT, Waiford Engineer Works

SUBMITTED *Frederick J. Clarke* DATE 3 Oct. 1946
Lt. Col. Frederick J. Clarke, Area Engineer
RECOMMENDED DATE

APPROVED *Frederick J. Clarke* DATE 10 Oct. 46

PERSONNEL

OFFICERS 1
 ENL.
 P.
 S P.
 CAF 11
 CPC 1
 MISCL.
 VAC. 2
 TOTAL 15

ADMINISTRATIVE DIVISION

Responsible for the planning and directing of all work performed in branch offices of the Division. Coordinates policies and plans with the various divisions in this office and with the Prime Contractor
 MAJOR J. W. VAN HOUT, Chief
 W. D. Sturgis, Asst., Adm. Asst.
 2 Secretaries

CAF-13
 CAF-5

CIVILIAN PERSONNEL BRANCH

(SEE SHEET #7)

TRANSPORTATION BRANCH

(SEE SHEET #7)

FISCAL BRANCH

(SEE SHEET #10)

PROPERTY BRANCH

(SEE SHEET #6)

CONTROL BRANCH

Collects and analyzes data on work methods and procedures; recommends improvement toward better utilization of personnel and facilities and greater efficiency of operations; proposes changes in organizational structure to clarify responsibilities and eliminating duplication and overlapping activities; establishing and maintaining a system for standardizing and controlling forms throughout the office. Screening travel requests, overtime reports, reports of Long Distance Telephone calls for conformance to policy. Supervising and coordinating space allocations, reservations, and adjustments. Insuring the prompt submission to higher authority of recurring reports by maintenance of adequate records and controls. Conducting special surveys and analyses on various administrative matters as directed. Directs uniform plan.

1 VACANCY, Chief, Management Analyst

CAF-11

OFFICE SERVICE BRANCH

Directs and supervises the work performed by the Mail & Records Section and the Classified Files Section.

AUDREY E. GEORGE, Chief - Clerk

CAF-4

MAIL AND RECORDS SECTION

Responsible for receipt, classification, and indexing of large volumes of correspondence and reports. Responsible for filing and delivery of correspondence.

MARJORIE D. TRACY, Chief - Clerk

CAF-3

2 Clerks

CAF-3

1 Messenger

CPC-2

CLASSIFIED FILES SECTION

Responsible for proper cataloging, filing, issuing and receiving of classified documents and correspondence.

1 Clerk

CAF-3

STATISTICS AND PROCESS SECTION

Receives statistical reports and maintains records on office operations; analyses and interprets statistical data and prepares or supervises the preparation of reports; reviews statistical needs of operating units of the installation and designs standard operating procedures; examines records and reports maintained by installation to eliminate unnecessary record keeping and files; determines essentiality of internal recurring reports and forms; assigns control approval symbols and numbers to authorized reports and forms; standardizes forms and controls design and reproduction of same; plans and executes special statistical studies on progress or status of office operations; makes recommendations on same.

ROBERT W. RICHARDSON, Chief - Administrative Asst. CAF-7
 1 Vacancy - Clerk CAF-6

MANAGEMENT ANALYSIS SECTION

Collects and analyzes data on work methods and procedures; conducts work simplification studies and surveys; recommends improvements toward better utilization of personnel and facilities and greater efficiency of operations; proposes changes in organizational structure to clarify responsibilities and to eliminate duplication and overlapping activities; collects major directives and other papers on office activities for use as historical source data; analyses same and makes necessary recommendations; makes such special studies requested by various elements of office.

JOHN MOORE, Chief, Procedural Analyst

CAF-9

1 Clerk-Stenographer

CAF-4

ORGANIZATION CHART
 MANHATTAN DISTRICT

UNIT Hanford Engineer Works

SUBMITTED *[Signature]* DATE 3 Oct. 1946

Lt. Col. Frederick J. Clarke, Area Engineer

RECOMMENDED DATE

APPROVED *[Signature]* DATE 15 Oct. 46

PERSONNEL

OFFICERS 1
 ENL.
 P
 SP
 CAF
 CPO
 MISCL.
 VAC.
 TOTAL 44

ENGINEERING & MAINTENANCE DIVISION

SAFETY BRANCH

Supervises and administers Community, Industrial and Construction Safety Programs, and Fire Prevention and Protection Program; organizes and coordinates accident prevention activities of the Safety Division. Also inspection of classified building in Operations Area.

W. H. MCCLANQUIST, Chief-Engr. (Safety) P-4
 1 Engineer (Safety) P-3

FIRE PROTECTION SECTION

Serves as consultant to the Safety Director on all fire prevention and protection matters. Responsible for the inspection of all construction and operations activities for fire hazards. Insures adequate fire fighting equipment and personnel in all areas on the project. In direct charge of the Harford Patrol Dept.

W. B. McKEHILL, Chief-Engr. (Safety) P-3
 3 Patrolmen CPO-3
 2 Patrolmen CPO-7
 26 Patrolmen CPO-6

COMMUNITY MANAGEMENT BRANCH

Reviews invitations to bid, and contracts on all community facilities, reviews renegotiation on facility contracts and all regulations for operation and maintenance of the community. Maintains records on facilities, leases and financial statements, establishes rentals on houses and dormitories and makes allocations to military and civilian employees, approves leases for same for the Contracting Officer, handles all real estate matters and assists all real estate matters and assists Federal Prison Industries in the care and operation of all agricultural lands within the project.

WILLIAM G. FULLER, Chief-Adm. Asst. CAF-11
 1 Agronomist P-3
 1 Adm. Asst. CAF-7
 1 Clerk-Steno CAF-4

COMMUNICATIONS BRANCH

Responsible for the operation and supervision of cryptographic security, teletype, telephones, and all equipment required therefor. Acts as Liaison Officer between the Area Engineer, Signal Corps, Prime Contractor and other agencies of the Army.

LT. FRED CULSON, Chief P-5
 1 Engineer (Telephones) P-5
 1 Radio Repairman \$1.45 ph.
 1 Clerk-Steno CAF-3

TELETYPE SECTION

1 TELEGRAPHIC TYPEWRITER OPER., Chief
 Vacancy CAF-4
 1 Telegraphic Typewriter Cpr. CAF-3
 1 " " " CAF-3

ORGANIZATION CHART
MANHATTAN DISTRICT

UNIT Harford Engineer Works

SUBMITTED *Frederick J. Clarke* DATE 5 Oct. 1946
 Lt. Col. Frederick J. Clarke, Area Engineer
 RECOMMENDED _____ DATE _____
 APPROVED *Frederick J. Clarke* DATE 15 Oct. 1946

HAFFORD ENGINEER WORKS

POWER DEPARTMENT

CONFIDENTIAL

Superintendent - F. M. Acker

Assistant Superintendent - H. H. Miller

Chief Supervisor - L. G. Ahrens - (100-B Area)

Area Supervisor - G. R. Calhoun

Engineer (Assign.) - (Results)

Water Supervision - R. D. Frank

Shift Supervisors - J. L. Burke

F. L. Nacke

M. P. Johnson

H. M. Cleveland

H. M. Pickering

Foremen - Bldgs. 181, 182, 183 - B. E. Clark S. G. Moores

J. W. Frymier A. C. Whiteside

Foremen - Bldgs. 185, 190, 108, R. J. King H. K. Hale

105 Valve Pit - R. L. Lance K. E. Harding

Senior Supervisor - J. R. Misenheimer (Steam Plant)

Shift Supervisor - K. W. McKay

Shift Foremen - H. N. Petty

G. Watkins

J. D. Turner

Senior Supervisor - J. W. Brands - (100-D Area)

Senior Supervisor - E. D. Petty

Engineer (Assign.) - J. P. Langan F. J. Smith (Results)

Water Supervisor - A. Frew

Senior Supervisors - N. H. Skarshaug

J. A. Haaga

J. C. McLaughlin

A. C. Hyde

Shift Supervisor - C. E. Harkins

Foremen - Bldgs. 181, 182, 183 - L. S. Cave T. A. Askew W. L. Bowen

R. B. Crum E. D. Ferguson

Foremen - Bldgs. 185, 190, 108 - E. R. Hill J. M. Hale

105 Valve Pit C. A. Meadows

Senior Supervisor - E. R. Keplinger (Steam Plant)

Shift Supervisor - I. L. Ellis

Shift Foremen - G. J. Williams G. R. Hale

Assistant Chief Supervisor - F. L. Hunt (100-F Area)

Senior Supervisor - F. P. Britson

Engineer - H. S. Livingston (Results)

Water Supervisor - K. F. Priest

Senior Supervisors - W. A. Neeland D. N. Mathis (Water Plant)

Shift Supervisors - E. W. Wilson H. M. Huff R. McDonald

Foremen - Bldgs. 181, 182, 183 - T. P. Vardell H. R. Hicks

J. R. Cartmell

N. V. Starkebaum

L. H. Crawford

Foremen - Bldgs. 185, 190, 108, G. C. Edwards K. R. Leifermann

105 Valve Pit E. L. Van Kirk H. A. Jones

Senior Supervisor (Steam)

Shift Supervisors - H. C. Nelson

H. F. Ross

Shift Foremen - J. H. Tarpenning

J. H. Dryer

E. T. Tausch

Chief Supervisor - F. O. Doughty (200, 300, 700, 1100 Areas)

Senior Supervisor - M. R. Miller (200 Areas)

Senior Supervisor - G. J. Baird (Ventilation)

Engineer - C. G. Rose (Results)

Shift Supervisors - J. P. O'Connell H. R. Kaeser J. A. Kelly P. H. Klute

Shift Foremen - C. R. McMillan

E. F. Smith

A. L. Henning

J. C. Wright

L. L. Shaw

Water Supervisor - (200 East Area)

Shift Foreman - H. G. Harder

L. P. Buma

F. Cox, Jr.

J. C. Richards

Senior Supervisor - R. S. McNeil (300, 700, 1100 Areas)

Shift Foremen - E. O. Brown

K. F. Erickson

R. Clements

J. H. Palmer

Senior Supervisor - J. A. Jones

July 1, 1945

~~CONFIDENTIAL~~

HANFORD ENGINEER WORKS

TECHNICAL DEPARTMENT

(Cont.)

Chief Supervisor - L. Squires - (200 Area)

Area Supervisor - J. E. Willard - (Section Supervisor - Process Chemistry)

Senior Supervisors - J. H. Peterson W. H. Sullivan

Chemists 4 & Jr. A.H. Angerman 2

<u>Technologists 2 -</u>	R.P.S. Black 2	H. R. Hoeckstra 4	D. G. Pye 2
	J. L. Dreher 4	W. G. Johnson 2	W. F. Schneller 2
	B. F. Faris 4	H. J. Kamack 2	G. W. Sears 4
	G. Leader 4	W. L. Kay 4	H. T. Siefen 4
	J. A. Swartout 4	M. Lindner 2	G. W. Stahl 4

Area Supervisor - M. F. Acken - (Section Supervisor - Plant Assistance)

Senior Supervisor 1

& Engineer (Chem.) 7 - R. S. Apple 1 R. H. Beaton 7 W. F. Underwood 7

Engineers (Chem.) - E. B. Christiansen

	C. H. Holt	
J. A. Gerster	P. H. Lehman	C. R. Straley
E. R. Gilbert	L. C. Peery	J. B. Work

Senior Supervisor - M. E. Bishop - (Section Supervisor - Semi-Works)

Senior Supervisor - A. F. Rupp

Jr. Technologists 2, T. A. Arehart 2 E. F. Hamilton 7

<u>Engineer (Chem.) 7 -</u>	E. M. Clapp 2	J. R. Jones 7	E. J. Reber 2
	F. A. Gluckert 2	E. F. Klenke 7	M. M. Wainscott 7
	I. R. Higgins 2	C. P. Norbert 2	W. G. Schmidt 2

Area Supervisor - K. G. Jones - (300 Area)

Metallurgist 9,

Tech. Specialist 6,

& Chemist 4 - R. P. King 6 E. A. Smith 4 M. B. Vordahl 9

Jr. Technologist 2

Engineers (Chem.) 7, F. H. Beck 2 R. J. Schier 8

Engineers (Assgn.) 8 - T. J. Armstrong 7 W. B. Stevenson 7 R. M. Treco 2

Engineer (Assignment) - W. O. Switzer - (Reports & Standards)

SPECIAL ASSIGNMENT - REPORTS & RECORDS

Technical Specialist - T. W. Hauff*

Engineer (Chem.) - D. R. Treadwell

* Reports to Assistant Manager

~~CONFIDENTIAL~~

July 1, 1945

HANFORD ENGINEER WORKS

TECHNICAL DEPARTMENT

Superintendent - P. W. Crane

Chief Supervisor - D. M. Smith

Assistant Chief Supervisor - G. W. Struthers

Senior Supervisor - R. E. Curtis

Chemist - W. W. Mills - (Apparatus and Supplies)

Senior Supervisor - R. M. Coleman - (Control 221-224-231-271)

Senior Supervisors - G. W. Fassett R. B. Fenninger D. W. Haught

Shift Supervisors - J. T. Christy

R. J. Hale	P. D. Jost	W. R. Lewis
J. W. Hall	L. M. Knights	E. W. Rebol
M. K. Harmon	J. T. Lassiter	J. T. Kirchmer
M. E. Jackson	R. F. Lescher	D. F. Shepard

Jr. Technologist - P. F. X. Dunigan

Area Supervisor - E. C. Morris - (Essential Material, 100 and 300 Area Control)

Senior Supervisor - W. A. Briggs - (Water Laboratories)

Shift Supervisors - W. R. Conley J. H. M. Miller T. E. Wilson

Shift Supervisors - G. B. O'Connor R. E. Kelly

Chemists - H. P. Hanisch J. Patterson

Senior Supervisor - B. F. Butler - (Methods Improvement and Statistics)

Shift Supervisors 3 J. W. Reynard 3 L. W. Safranski 4

& Chemists 4 - R. I. Martens 3 R. E. Kitson 4

Chemists 4 & B. J. Eiseman 4

Jr. Technologists 2 - W. W. Garrison 4 A. K. Parlour 4 A. F. Stehney 2

D. W. Gay 4 R. S. Rosenfels 4 E. F. Story 4

W. W. Marshall 4 R. N. Smith 4 D. E. Waters 4

Jr. Technologists - J. R. Fine C. W. Hammond

J. E. Guillotte H. J. Paas E. R. Wegener

Training Instructor - D. McElvery

Area Supervisor - M. R. Hoff

Chief Supervisor - Hood Worthington - (100 Area)

Physicist - W. E. Jordan - (Section Supervisor - Physics)

Physicists 5, Jr. H. A. Fowler 5 J. Marshall 5 U. M. Staebler 5

Technologists 2, Technical Specialists 6, & W. R. Kanne 5 R. L. Menegus 7 R. B. Stewart 2

Engineers (Chemical) 7 - S. Kuniansky 7 E. B. Montgomery 5 C.W.J. Wende 6

L. W. Marshall 5 J. J. O'Connor 5 J. M. West 5

G. V. Packer 2 J. A. Wheeler

Area Supervisor - C. P. Kidder - (Section Supervisor - Water & Corrosion - Engineering)

Engineers (Chemical) 7,

Tech. Specialists 6,

Engineers (Assigned) 8, J. S. Allen 1 D. H. Edwards 8

& Sr. Supervisor 1 - S. G. Bankoff 7 R. H. Osterloh 8 W. K. Woods 6

Engineer (Chemical) - P. A. Dahlen - (Flow Laboratories)

Jr. Technologists 2 W. K. Alexander 2 W. M. Coons 7 E. W. O'Rourke 2

& Engineers (Chem.) 7 - L. G. Anderson 2 M. J. Szulinski 2 J. E. Dunbar 7

HANFORD ENGINEER WORKS

S DEPARTMENT

Superintendent - W. C. Kay

Assistant Superintendent - C. E. Cole

Chief Supervisor

Assistant Chief Supervisor - J. D. Ellett - (T & U Plants)

Area Supervisors - K. C. Vint J. M. Frame

Senior Supervisors - V. R. Chapman Myron Davis J.V.P. Torrey

E. F. Curren R. O. Moham I. B. Venable

Shift Supervisors - L. F. Hardy A. S. Mowry

J. R. Barber J. H. Hershey W. B. Reed

O. F. Beaulieu F. A. Hollenbach P. G. Rhoades

A. P. Boston H. W. Huntley H. F. Riley

A. J. Bradway P. A. Levernier W. C. Shissler

V. D. Donihee F. R. Lewis R. E. Toczak

J. H. Gillette W. N. Mobley J. P. Turping

Senior Supervisor - C. A. Gosline - (Meteorological)

Shift Supervisors - J. F. Mattingly O. H. Newton

Engineers (On Assignment) - R. D. McGreal

A. Hester L. M. Meeker

D. E. Jenne B. D. Wilson

Chief Supervisor - F. B. Vaughan - (B Plant)

Assistant Chief Supervisor - (B Plant) - W. K. MacGready

Area Supervisors - (B Plant) J. Lower P. F. Elliott

Senior Supervisors - C. J. Poynter O. C. Schroeder

A. C. Cox T. Prudich S. D. Smiley

A. R. Maguire M. W. Riser F.A.R. Stainken

Shift Supervisors - S. I. Allen J. P. Hood L. N. Rynd

E. C. Bell M. M. Hoover O. V. Smiset

G. K. Carpenter R. M. Larson E. F. Smith

J. R. Cathcart R. R. Messick W. M. Wierman

C. T. Groswith M. A. Phillips R. W. Winter

G. E. Halm E. R. Read W. A. Wright

Chief Supervisor - J. J. Urban - (231 Building)

Assistant Chief Supervisor

Area Supervisor - S. A. McNeight

Senior Supervisors - R. D. Caney E. A. Foskett

L. C. Evans J. S. Rumsey

Shift Supervisor - W. S. Andrus

Engineers (On Assignment) - J. G. Attanas R. W. Harvey

L. I. Brecke H. H. Hubble

J. B. Chaney H. K. Strassel

J. F. Donnelly R. L. Voigt

Engineers (On Assignment) - G. W. Bird

E. S. Bowers

J. P. Connor

FAIRFORD ENGINEER WORKS

P DEPARTMENT

Superintendent - C. N. Gross

Assistant Superintendent - R. R. Lunt

Chief Supervisor - F. H. Dinsen - (B Area)

Area Supervisor - T. B. Kelly - (General)

Area Supervisor - W. P. McCue - (Production)

Area Supervisors - J. A. Byers - F. B. Friend - G. A. Solberg - G. M. Watters

Senior Supervisors -

W. R. Diver D. S. Lewis W. P. Mickelson

A. A. Janos R. D. Miller P. Richards

Shift Supervisors - J. S. Shipp - K. T. Perkins

Chief Supervisor - K. W. French - (D Area)

Area Supervisor - W. Grinus, Jr. - (General)

Assistant Chief Supervisor - E. F. Miller, Jr. - (Production)

Area Supervisors - E. H. Judkins - E. P. Lee, Jr.

Senior Supervisors -

J. T. Baker F. E. Mask

J. P. Conlon I. R. Smith

P. E. Lowe W. W. Windsheimer

Shift Supervisors -

T. B. H. Anderson F. A. Kay

W. A. Blanton D. C. Montgomery

Chief Supervisor - C. A. Priole - (F Area)

Area Supervisor - K. C. Mearns - (General)

Assistant Chief Supervisor - G. E. McMillan - (Production)

Area Supervisors - L. A. Bidez - H. L. Henry - S. Paige - W. E. Winter

Senior Supervisors -

G. V. Atkison H. J. Pecheux H. T. Wells

G. B. Carlton G. A. Peterson R. F. Foster

Shift Supervisors - B. M. Kaspar - S. L. Nelson - L. H. Wallace

Assistant Chief Supervisor - W. M. Sloan - (300 Area)

Area Supervisor - A. Gawthrop - (Fabrication)

Foreman - J. H. Kelly - (Metal Fabrication)

Shift Supervisor - R. K. Wahlen - (Preparation)

Senior Supervisor - J. R. Dahl - (Can & Dip)

Foreman - W. H. Timmerman

Foreman - W. R. Kirk

Area Supervisor - P. E. Collins - (Inspection)

Shift Supervisor - D. D. Drake - (Materials)

Foreman - L. Mikkelsen - (Material Handling)

Shift Supervisor - F. A. Snyder - (Inspection)

Engineer Assignment - D. L. DeNeal - (Control)

Shift Supervisor - W. G. Barnett

Senior Supervisor - C. P. Rankin - (Statistics)

July 1, 1946

~~CONFIDENTIAL~~

HANFORD ENGINEER WORKS
STAFF ORGANIZATION CHART

Manager - W. O. Simon

~~THIS DOCUMENT CONSISTS OF 20 PAGES~~
~~No. 24 OF 24 COPIES, SERIES A~~

Assistant Manager - B. H. Mackey

Production Superintendent - M. H. Smith

P Department Superintendent - C. N. Gross

S Department Superintendent - W. C. Kay

Superintendent - Technical Department - P. W. Crane

General Superintendent - T. N. Stapleton

Service Department Superintendent - W. T. Cloud

Works Engineer - L. A. Darling

Power Department Superintendent - F. M. Acker

Maintenance Department Superintendent - R. Hare

Electrical Department Superintendent - H. A. Carlberg

Instrument Department Superintendent - W. P. Overbeck

Transportation Department Superintendent - R. T. Cooke

Medical Department Superintendent - W. D. Norwood, M. D.

Chief Accountant - T. W. Brown

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July 1, 1945

HANFORD ENGINEER WORKS

ELECTRICAL DEPARTMENT

Superintendent - H. A. Carlberg

Assistant Superintendent -

Engineer (Assignment) - H. F. Harman (Office)

Area Engineer - A. G. Lambert (100 Areas)

Assistant Area Engineer - C. C. Hinson (100 B)

Foremen - G. L. Givan - C. G. Allen - C. D. Stahl

Assistant Area Engineer - R. H. Lee (100 D)

Foremen - H. E. Bennett - D. B. Bagley

Assistant Area Engineer - E. E. Meyerts (100 F)

Foremen - R. R. Palmer - K. G. Robinson - F. J. McClure

Shift Engineers - R. B. Britton - P. B. Engels - R. L. Sandrock

Engineer (Assignment) - H. E. Evans

Area Engineer - W. J. Dowis (200, 300, 700 and 1100 Areas)

Assistant Area Engineer - H. A. Remaly

Craft Foreman - B. J. Willingham (Acting Shift Engineer) (200 W and 200 N Areas)

Foremen - T. D. Gibbs - R. F. Smith

Shift Engineer - E. M. White (200 E)

Foremen - E. H. Fulton - E. F. Leinberger

Shift Engineer - C. A. Mally (300, 700 and 1100 Areas)

Foremen - D. C. Wheeler (700 and 1100 Areas)

A. L. Vosmer (300 Area)

Engineer (Assignment) - C. R. Bergdahl (200 and 300 Areas - General)

Engineer (Assignment) - H. R. Hughes (700 and 1100 Areas - General)

Foreman - Special Assignment - W. J. Stubblefield

Area Engineer - J. C. Badenoch (Distribution)

Assistant Area Engineer -

Engineer (Assignment) - R. E. Leith (Substation Operators)

Shift Engineer - W. E. Houston (Line Maintenance)

Foremen - E. L. Givens - P. G. Sease - W. H. Hopkins

Shift Engineer - P. W. Carter (Substation Maintenance)

Foremen - H. M. Osborn - E. G. Dosskey

Engineers (Assignment) - E. J. O'Black (Plant Distribution)

R. F. Haynes (Relaying and Protection)

Foreman - G. R. McKinney (Communications)

MAINTENANCE DEPARTMENT

(Continued)

Area Engineer - R. V. Pierce (300-700-1100 Areas)

Engineer (Assignment) - John R. Fallows (Field-300)

Foreman - R. L. Disbrow M. L. Sappenfield

Shift Engineer - John M. Heffner, Jr. (700-1100)

General Foremen - J. S. Crowder M. F. Walker

Foremen - B. C. Bain W. O. Patmor

H. L. Fisher J. R. Goggin

J. E. Hocutt E. L. Woodburn

Paul Sevedge

R. V. Work

W. A. Rupea

Area Engineer - Wm. Dunnington (Projects & Methods)

Engineer (Assignment) - O. E. Snyder (Design-100, 300, 700 Areas)

Engineers (Assignment) - C. W. Anderson D. M. Paige

Engineer (Assignment) - W. D. Webb (Design-200 Areas)

Engineers (Assignment) - J. R. Blissard R. Y. Hays

Engineer (Assignment) - P. A. Hoenie (Methods & Control - Group Leader)

Engineers (Assignment) - C. F. Haeske (Material Control)

G. R. Moore (Industrial)

W. D. Smuts (Lubrication)

E. Bell, Jr. (Industrial)

M. E. Yates (Lubrication)

Shift Engineer - L. L. Sphar

Shift Engineer - E. O. Dean (Methods & Control-Group Leader)

Engineers (Assignment) - C. T. Kessell (Industrial)

O. H. Lang (Industrial)

A. S. Withrow (Industrial)

J. H. Smithson (Refrigeration)

Shift Engineer - F. W. Caney S. H. Quist

Engineer (Assignment) - C. H. Storms (Design & Drafting)

Engineers (Assignment) - C. Bucholz A. C. Heckenlaible

R. B. Sturgis J. V. Lawler

MAINTENANCE DEPARTMENT

MAINTENANCE DEPARTMENT

~~CONFIDENTIAL~~

Superintendent - Ross Hare

Assistant Superintendent - A. J. Schwertfeger

Area Engineer - S. G. Crews (100 Areas)

Assistant Area Engineer - R. R. Meyers (100 B)

General Foreman - R. J. Browning

Foremen - L. M. Nunley

J. C. Groom	H. B. Shafer
C. H. Bell	J. P. Coffey
R. Fraser	H. M. Smith

Assistant Area Engineer - J. W. Nageley, Jr. (100 D)

General Foremen - R. W. Pegalu F. R. Vincent

Foremen - C. E. Geer D. P. Madsen

R. R. Harris	R. M. Scott
C. A. Brenner	J. A. Jensen
B. E. Page	J. L. Gastkill

Engineer (Assignment) - J. F. Heberer (Acting Assistant Area Engineer 100 F)

General Foreman - E. E. Johnson

<u>Foremen - D. W. Clark</u>	W. G. Sickman
E. D. Allen	J. M. McCartney
Z. H. Mayberry	R. Musselman
R. W. Millmott	E. G. Panther

Shift Engineers - V. W. Wood

F. B. Kramer	S. F. Schure
K. K. Campbell	E. H. Kolts

Area Engineer - R. S. Wangelin, Jr. (200 Areas)

Assistant Area Engineer - S. W. Carmack (200 W)

General Foreman - E. W. Baker (Shops)

<u>Foremen - W. E. Finrock</u>	B. M. Wright
G. L. Smith	L. Bellande
J. E. Verne	R. E. Bowe

General Foreman - J. B. Hughes (Field)

<u>Foremen - C. L. Poe</u>	J. N. Stewart
O. B. Palmer	R. E. Kelly
H. W. Persons	

Assistant Area Engineer - R. T. Jessen (200 E)

General Foreman - V. C. Langford

<u>Foremen - L. J. Scoggins</u>	J. M. Blackburn
D. D. Sivills	W. L. Soffe
C. C. Wilson	P. E. L. Nussbaum

Shift Engineers - G. W. Dorsey, Jr. P. J. Moroz

J. M. Poindexter W. E. Davis

General Foremen - J. F. Lee

W. P. Creasey O. L. Carter

<u>Foremen - C. L. Hinkson</u>	H. C. Savage
J. W. Calderwood	E. L. Merryman
M. L. Robertson	J. V. Clatworthy
G. Shoberg	C. I. McCrerey

Engineer (Assignment) - W. C. Schrader

CONFIDENTIAL
July 1, 1945

HANFORD ENGINEER WORKS

INSTRUMENT DEPARTMENT

Superintendent - W. P. Overbeck

Assistant Superintendent - H. J. Bowman

Area Engineer - Kemper Stone - (100 Areas)

Assistant Area Engineer - W. E. Neff - (100-B Area)

Shift Engineer - J. W. Kuhn

Shift Supervisors - C. O. Clemetson, E. S. Day, Jr.

Craft Foreman - P. M. Fleming

Assistant Area Engineer - E. Hilgeman - (100-D Area)

Shift Engineer - B. L. Weller

Craft Foremen - F. K. Peck, A. Hughes, J. D. McCullough

Assistant Area Engineer - S. C. Lloyd, Jr. - (100-F Area)

Shift Engineer - T. M. Clement

Shift Supervisor - T. A. Richards

Craft Foreman - M. W. Hoferer

Area Engineer - L. E. Dunkelberger - (200 Areas)

Assistant Area Engineer - W. W. Porter, Jr. - (200-E Area)

Shift Supervisors - H. B. Chowning, K. T. Phaling

Craft Foreman - C. D. Phelps

Assistant Area Engineer - H. E. Ost Dahl - (200-W Area)

Shift Engineers - R. C. Mann, T. J. Chelgren, A. J. Mosley

Shift Supervisor - J. A. Jaffe

Engineers (Assignment) - J. F. Coughlin

B. E. Woodward

C. Clark

R. G. Jackson

Area Engineer - J. Q. duPont - (Shops)

Assistant Area Engineer - O. D. Merrill - (300 Area)

Shift Foremen - T. R. Cartmell, A. W. Hildebrandt

Engineer (Assignment) - J. M. Holeman

Assistant Area Engineer - T. T. E. Elmendorf - (700 Area)

Shift Supervisor - J. G. Haines

Engineer (Assignment) - F. M. Stratton (Electronics)

Engineers (Assignment) - N. T. Hildreth, R. C. Limburg (Tube manufacture)

Engineers (Assignment) - C. W. Botsford, D. D. Friel (Optical)

Engineer (Assignment) - I. S. Taylor (Material Control)

Engineer (Assignment) - E. W. Mulloy (Special Problems)

HANFORD ENGINEER WORKS

MEDICAL DEPARTMENT
(Continued)

~~CONFIDENTIAL~~

Chief Supervisor - H. M. Parker (Health Instrument)

Senior Supervisor - C. M. Patterson (Survey)

Engineers	J. G. Bradley	W. A. McAdams	J. M. Smith
(Assignment) -	R. B. Bixler	M. L. Mickelson	L. D. Turner

Senior Supervisor - L. L. German (100 Areas)

Senior Supervisor - C. W. Badger (100 B H.I.)

Engineers (Assign.) - L. V. Barker, H. G. Ruppert, J. G. Myers

Engineer (Assign.) - L. J. Cherubin (100 D H.I.)

Engineers (Assign.) - L. F. Albright, M. T. Lewis, N. W. Hope

Senior Supervisor - J. E. Greever (100 F H.I.)

Engineers (Assign.) - R. G. Clough, Jr., F. L. Vencill

Senior Supervisor - F. P. Seymour (200 Area)

Engineers (Assign.) - C. R. E. Merkle, Jr. (200 T, H.I.)

Engineers (Assign.) - R. A. Hultgren, J. P. Cooke, P. R. Nelson, C. B. Foster

Senior Supervisor - C. G. Lewis (200 B, H.I.)

Engineers (Assign.) - P. C. Jarman, R. E. Olson, L. C. Roos, F. G. Tabb

Shift Supervisor - 292

Senior Supervisor - J. W. Morris (231 Building)

Engineers (Assign.) - G. W. Chastain, H. A. Moulthrop, L. D. Pahnke, W. Singlevich

Senior Supervisor - W. H. Durum (300 Area)

Engineers (Assign.) - R. W. Chamberlain, W. H. DeLany, Jr., G. P. Kessel, R. A. Brown

Senior Supervisor - P. E. Lindvig (Site Survey)

Engineers (Assign.) - W. F. Bulow, J. M. Campbell, D. H. Stevenson, J. W. Anderson

Engineer (Assign.) - P. L. Eisenacher (Laundry and Decontamination)

Senior Supervisor - C. C. Gamertsfelder (Special Studies)

Senior Supervisor - J. W. Healy

Senior Supervisor - E. S. Whittaker (Personnel Meters)

Senior Supervisor - J. C. Hart

Shift Supervisors - J. C. Ledbetter, H. F. Hanson, P. M. Walker (Pencils)

Shift Supervisors - E. J. Galbraith, D. L. Wheadon (Badges)

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HANFORD ENGINEER WORKSMEDICAL DEPARTMENT**CONFIDENTIAL**Superintendent - W. D. Norwood, M.D.Assistant Superintendent - T. L. Williams, M.D. (Village Medical)Hospital ServicesSenior Supervisor - E. Fariss (Dietetics)PharmacistSenior Supervisor - E. Sikes (Nurses)Senior Supervisor - M. Lee (Industrial)Senior Supervisor - E. Vosmer (Village Medical)Senior Supervisor - M. Sharpless (Hospital)Senior Supervisor - A. McDonald (Obstetrics)Senior Supervisor - R. Swift (Anesthesia)Shift Supervisors - V. Bridges, E. Andrews (Surgery)Shift Supervisor - M. Gavin (Isolation)Shift Supervisor - W. Rosander (Medical)Shift Supervisors - M. Albright, K. Kenworthy, B. BiekerShift Supervisor - J. Gerking (Public Health)SpecialistsSenior Physician - L. L. Davis, M.D. (Eye)Medical Specialist - M. R. Petersen, M.D. (Obstetrician)Medical Specialists - A. D. Wert, M.D., D. V. Shuman, M.D. (Pediatrician)Medical Specialist - L. F. Hulsman, M.D. (Ear, Nose & Throat)Senior Medical Specialist - T. J. Bulger, M.D. (Surgeon)RadiologistPrincipal Physician - R. R. Sachs, M.D. (Public Health)Engineers - R. E. Kircher, L. G. Koch, J. I. Maston (Assignment)MedicineSenior Medical Specialist - J. M. Wetherhold, M.D.Principal Physician - J. S. Taylor, M.D.Principal Physician - L. B. Harville, M.D.Principal Physician - T. E. McGauvran, M.D.Principal Physician - T. J. Albertowicz, M.D.Senior Supervisor - E. C. Berry (Bacteriology)Senior Supervisor - H. H. Pitluck, D.D.S. (Dentists)Physician - A. M. Lauterstein, D.D.S.Senior Physician - C. A. Hill, D.D.S.Physician - A. F. Gardner, D.D.S.Physician - J. F. Saylor, D.D.S.Senior Physician - H. Nevins, D.D.S.Assistant Superintendent - S. T. Cantril, M.D. (Industrial Medical)Senior Physician - P. A. Fuqua, M.D.Senior Supervisor - B. A. West (Laboratories)Senior Supervisor - J. A. Quigley, M.D.Senior Physician - J. C. Miller, M.D. (Pre-employment)Physician - J. A. deFreitas, M.D. (Plant Medical)Senior Physicians - G. L. Beyer, M.D., D. H. Smith, M.D. (Plant Medical)**CONFIDENTIAL**

HARTFORD ENGINEER WORKS

SERVICE DEPARTMENT (PROTECTION)

~~CONFIDENTIAL~~

General Superintendent - T. N. Stapleton

Assistant Chief Supervisor - E. L. Richmond (Protection)

Division Supervisor - H. E. Scott (Security-Investigation)

Section Supervisor - G. D. Barr (Investigations)

Section Supervisor - T. B. Farley (Security)

Section Supervisor - H. F. Johnstone

Chief Supervisor - C. C. Tallman (Patrol)

Division Supervisor - T. O. Brewer (200 Areas)

Captain - S. F. Campbell, Jr. (200 East Area)

Lieutenants - H. S. Morse W. E. Spicer C. E. Rekonen

Sergeants - A. E. Carey W. M. Cox H. L. Pack J. C. Yost

V. F. Stuart J. A. Schmitz J. B. Potter

Captain - E. T. Fidler (200 West Area)

Lieutenants - H. Norris J. W. VanCott W. A. Welch

Sergeants - J. A. Bowman G. D. Bartimus H. S. Davis J. R. Evans

G. R. Reese H. L. McClure

Division Supervisor - H. W. Strook (100 & 300 Areas)

Captain - E. W. Sutherland (100-B Area)

Lieutenants - C. R. Epple H. C. Pollard

Sergeants - E. S. Andrew K. L. Farrier C. L. Luebber V. E. Stull

C. D. Casto L. B. O'Brien C. E. Turner

Captain - W. H. Pillsbury (100-D Area)

Lieutenants - C. Norbratten C. Uhrenholdt D. P. White

Sergeants - B. W. Allen R. O. Beard F. J. Bihner

L. F. Patty F. T. Sykes J. E. Coleman

Captain - W. A. Ziegler (100-F Area)

Lieutenants - C. C. Haelsig C. E. Jones R. E. Watts

Sergeants - G. V. Aasal G. M. Everett W. E. Jorgenson

V. A. Olson J. C. Clark J. D. Barnett

Captain - C. A. Whaley (300 Area)

Lieutenants - H. L. Smith W. F. Polk

Sergeants - J. W. Cheadle G. L. McGilbry W. A. Meyer T. M. Wagner

Division Supervisor - W. P. Allen (Richland Area & Training)

Captain - Lt. A. A. Layman, In Charge (Richland Area)

Sergeant - A. E. Barron (Traffic and Accident Investigation)

Lieutenants - C. H. Overdahl J. K. Holmes A. L. Meyer

Sergeants - J. O. Cole R. H. Kays L. M. Linkous L. H. Lowery

A. F. Novotny D. D. Rakes W. W. Kerr

Lieutenant - J. S. Johnson (Crime Prevention)

Sergeant - L. M. Lyall

Captain - L. D. Wright (Training)

Lieutenants - W. H. Roos J. R. Ward

Sergeants - H. E. Faulkner L. C. McGuinn H. E. Thomas

Division Supervisor - E. Weston (Administration)

Lieutenant - Sgt. C. F. Klepper, In Charge (Supply)

Sergeant - A. J. Barnett (Supply)

Sergeant - H. F. Simpson (Equipment, Automotive)

Lieutenant - C. G. Hicks (Communications, Master Key, Passes, Emergency Officers)

Sergeants - W. J. Rosenberger L. K. Woods F. C. Dawson

H. L. Hackwith W. S. Hutchison

Captain - A. L. Funk (Personnel & Records)

Lieutenant - L. G. A. Casey (Records)

Lieutenant - A. G. Mainland (Personnel)

~~CONFIDENTIAL~~

Assistant Superintendent - C. Henningsen (Village)

Division Supervisor (General) H. F. Price (Housing)

Section Supervisor (General) M.T. Binns (Ten. Service & Work Order Control)

Foreman (General) D. L. Anderson (Dormitories)

Chief Supervisor - G. C. Houston (Services)

Division Supervisor (General) S. B. Badgett (Performance of Community Felts.)

Section Supervisors (General) R. J. Pederson (Commercials)

F. J. Ogle (Commercials)

Division Supervisor (General) C. F. Barnes (Public & Semi-Public Bldgs.)

Section Supervisor (General) J. A. Ricker (Miscellaneous Activities)

Section Supervisor (General) D. H. Berst

Section Supervisor (General) R. M. White (Contracts & Negotiations)

Chief Supervisor - J. S. McMahon (Miscellaneous)

July 1, 1945

HANFORD ENGINEER WORKS
SERVICE DEPARTMENT

CONFIDENTIAL

Superintendent - W. T. Cloud

Assistant Superintendent - F. V. Albrechtson - (Plant)

Chief Supervisor - J. B. Daniel - (Personnel)

Asst. Chief Supervisor

Division Supervisor - (Industrial Relations) W. Nightingale, Jr.

Industrial Relations Counselors - S. E. Linter

Charles Wood

Section Supervisors - (Industrial Relations) C. F. Stuart - (Welfare)

G. G. Truog

Section Supervisor - (Industrial Relations) L. P. Shannon - (Training)

Training Instructor - A. E. Carlson

Section Supervisor - (Industrial Relations) George Thom - (Selective Service)

Section Supervisor - (Employment) W. T. Pope

Division Supervisor - (Personnel) H. P. Shirrefs - (Special Assignment)

Section Supervisor - (General) C. P. Hornecker - (Central Files)

Chief Supervisor - J. T. Brown - (Safety & Fire Protection)

Division Supervisor - (Safety) R. E. Johnson

Engineers - (Safety) R. E. Harlowe

C. G. Holmes

L. R. Riggs

J. L. Gabriel

H. W. Wilkins

Engineer - (Fire) H. P. Jones

Section Supervisor - (Fire) R. H. Hare

Fire Chiefs - C. L. Olson - (Village)

J. J. Whicher - (Plant)

Asst. Fire Chiefs - P. J. Quane

W. D. Sharnack

Fire Captains - H. W. Anderson

H. R. Cammole

G. A. Hirst

F. F. Rutt

P. S. Smith

Fire Lieutenants - W. G. Boice

L. P. Mascek

L. J. Bresina

C. A. Nevins

V. B. Carey

E. R. Oder

R. L. Fortune

M. G. Pearson

D. A. Foster

P. P. Perkins

R. H. Gabriel

K. I. Peterson

A. H. Lee

J. A. Price

W. C. Littrell

J. E. Sherwood

G. H. Lovell

H. E. Trospen

E. L. Lynch

R. Wilkinson

K. McElveny

W. A. Wright

Division Supervisor (General) T. B. Mitchell

Foremen (Laundry) G. H. McCammon

G. W. Powell

Foremen (Janitor) R. C. Dunlop

J. L. Norwood

W. G. Freeland

J. J. Quinn

W. Maguffee

P. P. Springer

July 1, 1945

HANFORD ENGINEER WORKS
TRANSPORTATION DEPARTMENT

~~CONFIDENTIAL~~

Superintendent - R. T. Cooke

Assistant Superintendent - D. E. Hudson

Chief Supervisor - Automotive -

Senior Supervisor - W. L. Straughen

Shift Supervisor - R. L. McGahee

General Foreman - P. P. Barr

<u>Truck Foremen</u>	<u>O. F. Davis</u>	<u>M. E. Miller</u>
<u>Shift Foremen</u>	<u>C. R. Cole</u>	<u>M. D. McGruder</u>
	<u>E. H. Dean</u>	<u>A. P. Mitchell</u>
	<u>B. A. DeGood</u>	<u>R. W. Sheckler</u>
	<u>C. L. Eaton</u>	<u>M. M. Skeen</u>
	<u>J. E. English</u>	<u>L. G. Solberg</u>
	<u>H. E. Groff</u>	

Chief Supervisor - E. G. Jones - (Repairs)

<u>Garage Foremen</u>	<u>H. W. Brent</u>	<u>L. A. Powell</u>
<u>Shift Foremen</u>	<u>F. W. Bell</u>	<u>C. S. LaPorte</u>
	<u>Virgil Bond</u>	<u>N. L. Lewis</u>
	<u>O. R. Coglizer</u>	<u>J. L. Perry</u>
	<u>J. C. Ensor</u>	

Chief Supervisor - M. F. Rice - (Labor)

Senior Supervisor - R. L. Myers

Shift Supervisor - C. W. Funk

<u>General Foremen</u>	<u>L. S. Johnson</u>	<u>G. B. Mullins</u>
	<u>C. E. Lange</u>	<u>C. H. Watkins</u>
<u>Labor Foremen</u>	<u>G. E. Acorn</u>	<u>W. B. Hinson</u>
	<u>G. T. Adams</u>	<u>T. M. Jones</u>
	<u>F. C. Ayer</u>	<u>W. R. Jones</u>
	<u>E. G. Banwell</u>	<u>D. E. Lane</u>
	<u>R. I. Bissell</u>	<u>A. J. McKinnon</u>
	<u>R. L. Brown</u>	<u>J. E. Millard</u>
	<u>H. M. Cook</u>	<u>F. E. Miller</u>
	<u>F. Doyle</u>	<u>R. R. O'Leary</u>
	<u>H. Emmons</u>	<u>K. J. Parchen</u>
	<u>H. Gagnebin</u>	<u>J. Phillips</u>
	<u>C. E. Gant</u>	<u>L. B. Russell</u>
	<u>J. Garcia</u>	<u>H. M. Terpatra</u>
	<u>C. J. Glode</u>	<u>L. O. Williams</u>

Chief Supervisor - W. E. Dixon A. E. Kellum - (Traffic)

Assistant Chief Supervisor M. D. Edson

Yardmaster F. A. Lynn R. W. Cushing

Shift Supervisor J. G. Thomas

Shift Foreman L. Evert

~~CONFIDENTIAL~~

July 1, 1948

HANFORD ENGINEER WORKS

SUMMARY

NON-EXEMPT

Senior Clerk	36
Clerk	155
Junior Clerk	129
Secretary	15
Chief Stenographer	4
Stenographer	94
Typist	42
Receptionist	1
Messenger	9
Chief Telephone Operator	2
Telephone Operator	53
Telegraph & Teletype Operator	2
Office Machine Operator	43
Office Helper	130
Nurse	89
Medical Technician	27
Medical Attendant	2
Helper	178
Laborer	170
Cook	1
Inspector	32
Electrician	174
Groundman	5
Instrument Mechanic	136
Draftsman	15
Junior Engineer	3
Estimator	9
Mechanic	493
Painter	40
Tool & Store Attendant	17
Chief Operator	34
Operator	836
Coal Handler	26
Auto Mechanic	83
Oiler	47
Crane Operator	11
Tractor Operator	15
Equipment Inspector	8
Employment Investigator	6
Truck Driver	68
Patrolman	526
Radio Operator	23
Matron	4
Safety Inspector	4
Fire Protection Inspector	7
Employment Interviewer	2
Locomotive Operator	10

HANFORD ENGINEER WORKS

SUMMARY

EXEMPT

Manager	1
Assistant Manager	1
Production Superintendent	1
General Superintendent	2
Works Engineer	1
Superintendent	10
Assistant Superintendent	11
Chief Supervisor	21
Assistant Chief Supervisor	9
Area Supervisor	29
Senior Supervisor	95
Water Supervisor	3
Shift Supervisor	114
Area Engineer	11
Shift Engineer	17
Assistant Area Engineer	27
Foreman	217
Yardmaster	2
Engineer (Assignment)	110
Chemical Engineer	22
Junior Technologist	30
Metallurgist	1
Physicist	10
Chemist	24
Division Supervisor	11
Section Supervisor	16
Counselor	2
Fire Chief	2
Assistant Fire Chief	2
Fire Captain	5
Fire Lieutenant	24
Fire Protection Engineer	1
Safety Engineer	5
Patrol Captain	8
Patrol Lieutenant	26
Patrol Sergeant	58
Chief Accountant	1
Assistant Chief Accountant	3
Chief Clerk	2
Assistant Chief Clerk	3
Supervisor	4
Assistant Supervisor	3
Senior Clerk	2
Physician	16
Medical Specialist	6
Training Instructor	2
Technical Specialist	5

TOTAL

976

July 1, 1945

HANFORD ENGINEER WORKS

ACCOUNTING DEPARTMENT

Chief Accountant - T. W. Brown

Assistant Chief Accountant - S. D. Ewing

Assistant Chief Accountant - J. W. Simmons (Special Assignment)

Senior Clerk - Accounting - R. H. Hopkins

Senior Clerk - Accounting - R. G. Simpson

Chief Clerk - Accounting - J. I. Moffett

Assistant Chief Clerk - Accounting (Special Assignment) - R. L. Meekins

Assistant Chief Clerk - Accounting - R. M. Brown

Supervisor - Accounting - W. S. Roe

Assistant Chief Accountant - E. E. Murphy

Chief Clerk - Operations - R. W. Carriger

Assistant Chief Clerk - Operations - W. E. Babcock

Supervisor - Stores - D. C. Brooks

Assistant Supervisor - Stores - C. J. Sheeran

Supervisor - Purchasing - C. E. Poehlein

Assistant Supervisor - Purchasing - W. A. Bearden

Supervisor - Accounting - R. S. Quarles

Assistant Supervisor - Accounting - I. D. Behymer

July 1, 1945

HANFORD ENGINEER WORKS

SUMMARY

NON-EXEMPT
(Continued)

Seamstress	3
Custodian	1
Lifeguard	2
Conductor	7
Switchman	10
Trackman	10
Weighmaster	1
Assistant Weighmaster	1
Shuttle Driver	227
Photographer	1
Fireman	76
Laundry Operator	2
Janitor	79
Laundry Attendant	8
Chemist	100
Engineer	1
Analyst	3
Laboratorian	141
Laboratory Attendant	1
Technician	2
Process Inspector	1
TOTAL	<u>4493</u>

May 1, 1946

- | | |
|-------------------------|----------------------------------|
| 1. D. A. Miller | 11. R. Hare |
| 2. T. N. Stapleton | 12. S. D. Ewing |
| 3. A. J. Schwertfeger | 13. W. T. Cloud |
| 4. R. M. Evans | 14. E. L. Richmond |
| 5. J. N. Tilley | 15. C. V. Dodge |
| 6. M. H. Smith | 16 through 21. The Area Engineer |
| 7. C. N. Gross | 22. W. A. Smith |
| 8. W. C. Kay | 23. THX Wilmington File |
| 9. F. B. Vaughan | 24. 700 Area File |
| 10. W. D. Herwood, M.D. | 25. Extra |

HEW - ORGANIZATION CHART

Please substitute the attached Hanford Engineer Works Organization Chart for that dated March 1, 1946, returning the obsolete chart promptly to C. P. Hemecker, 700 Area File.

/s/ T. N. STAPLETON
T. N. STAPLETON
ASSISTANT MANAGER

TNS:fb
Attachment

This document contains information affecting the national defense of the United States within the meaning of the espionage act, U.S. C., 5 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

May 1, 1946

HANFORD ENGINEER WORKS
STAFF ORGANIZATION CHART

Manager - D. A. Miller

Assistant Manager - T. N. Stapleton

Production Superintendent - M. H. Smith

P Department Superintendent - O. W. Gross

S Department Superintendent - F. B. Vaughan

Technical Department Superintendent - W. C. Kay

Service Department Superintendent - W. T. Cloud

Protection Department Assistant Superintendent - E. L. Richmond

Works Engineer - R. Hare

Power Department Superintendent - F. M. Acker

Maintenance Department Superintendent - A. J. Schwertfeger

Electrical Department Superintendent - H. A. Carlberg

Instrument Department Superintendent - W. P. Overbeck

Transportation Department Superintendent - H. T. Cooke

Medical Department Superintendent - W. D. Norwood, M. D.

Chief Accountant - S. D. Ewing

HANFORD ENGINEER WORKS

May 1, 1946

P DEPARTMENT

Superintendent - C. H. Gross

Assistant Superintendent - R. R. Lunt

Chief Supervisor - C. A. Priode - B Area

Area Supervisor - L. A. Nides

Senior Supervisors - G. H. Carlton

W.P. Nicklasen

Shift Supervisors - M. A. Laybourne E.W.O'Rourke C.G. Lewis

Chief Supervisor - K. W. French - D Area

Assistant Chief Supervisor - Production - W. P. McGee

Area Supervisors -

E.H. Jenkins

P.E. Lowe

W.W. Windsheimer

Senior Supervisors - J. T. Baker

D. S. Lewis

Shift Supervisors - J.G. Bradley J.N.M. Miller K.T. Perkins

Foreman - H. E. Berg

Chief Supervisor - G. E. McMillan - F Area

Assistant Chief Supervisor - General - E. F. Miller

Assistant Chief Supervisor - Production -

J.H. Warren

Area Supervisors - H. L. Henry A.A. James M.J. Pecheux H.T. Wells

Senior Supervisors - R. F. Foster G.A. Peterson

Shift Supervisors -

B.M. Kasper

H.A. Webber

J.E. Greever L.H. Wallace H.S. Whittaker

Assistant Chief Supervisor - W. M. Slem - 300 Area

Area Supervisor - F. B. Friend

Senior Supervisor - Metal Preparation & Recovery - F. B. Joehn

Shift Supervisor - Extrusion, Outgassing & Mach. - J.S. Shipp

Foreman - Materials and Metal Preparation - L. Mickelson

Senior Supervisor - Canning & Dipping - J. R. Dahl

Shift Supervisor - Canning & Dipping - R. K. Mahlon

Foreman - Canning Preparation - W. R. Kirk

Foreman - Banded Can Lines - W. H. Finnerman

Engineer (Assignment) - Unbanded Can Lines - D. L. DeNeal

Senior Supervisor - Inspection, Control & Recovery - T.B.H. Anderson

Shift Supervisor - Inspection, Control & Recovery - W. A. Blum

Shift Supervisor - Inspection & Recovery - F. A. Snyder

Shift Supervisor - Control, Bldg. 308, Chip Recovery - S.L. Hall

Senior Supervisor - Statistics - W. P. Rankin

Shift Supervisor - W. G. Barnett

Assistant Chief Supervisor - Process Control & Training Group - E. P. La

Senior Supervisor - R. D. Miller

Shift Supervisor - D. C. Montgomery

Assistant Chief Supervisor - Special Hazard Control - A. H. Mollett

HANFORD ENGINEER WORKSS DEPARTMENTSuperintendent - F. B. VaughanAssistant Superintendent - J. D. ElliottChief Supervisor - T Plant - W. K. MacCreedySupervisor in Training - J. T. LassiterAssistant Chief Supervisor - T Plant - K. C. VintArea Supervisors - M. Davis V. R. ChapmanSenior Supervisors - E. G. Bell J. H. Gillette W. N. Moble

L. F. Hardy G. A. Gosline F. Moss

H. W. Huntley J. H. Hershey J. P. Turp

Shift Supervisors - A. P. Boston P. O. Knech

J. R. Barber A. S. Murry R. E. Toom

O. F. Beauchien W. B. Reed W. A. Wrig

Engineers (Assignment) Meteorological - D. E. Jenne A. Hester

J. R. Fine L. M. Meek

B. D. Wilson

Chief Supervisor - B Plant - R. S. BellAssistant Chief Supervisor - B Plant - S. D. SmileyArea Supervisors - B Plant - J. M. Frame H. O. MohannSenior Supervisors - H. R. Messick M. W. Riser

R. D. Caney G. J. Poynter O. V. Smise

G. T. Groswith T. Prudich F. A. R. Stain

Shift Supervisors - S. Y. Allen J. P. Hood L. W. Rynd

G. K. Carpenter F. R. Lewis E. F. Smith

G. E. Hahn M. A. Phillips W. M. Wier

Chief Supervisor - 231 Building - J. E. MaiderSupervisors in Training - M. E. Jackson S. G. SmolenArea Supervisor - E. A. FockettSenior Supervisors - J. S. Rumsey L. I. Brecks R. L. VoigtShift Supervisors - H. H. Hubble J. P. Donnelly

J. G. Attanas J. B. Chaney H. K. Strassel

Shift Supervisor - (Records) - V. D. DonheeEngineers (Assignment) - E. J. Reber J. P. Connor

May 1, 1946

HANFORD ENGINEER WORKS

TECHNICAL DEPARTMENT

Superintendent - W. C. Kay

Chief Supervisor - Laboratories - G. W. Struthers

Assistant Chief Supervisor - R. E. Curtis

Area Supervisor - (Control 200 Area) - R. B. Fenninger

Senior Supervisors - J. T. Christy P.F.X. Dunigan L. M. Knights

Shift Supervisors -

O.P. Amacker	M.K. Harmon	H. F. Matthiesen
L.A. Berry	L.F. Kendall	H. W. Murray
N.R. Chelley	J.T. Kirchner	D. F. Shepard
J.W. Hall	R.P. Lescher	P. E. Vandervoort

Chemist - P. B. Fink

Area Supervisor - (Essential Material - 100,300 Area Control) - W.A. Briggs

Shift Supervisors - D. G. Ebenhaek R. J. Hale T. E. Wilson

R. D. Fletcher W. H. Koop J. E. Stokes

Chemists - H. P. Hanisch J. Patterson

Senior Supervisor (Methods Improvement and Statistics) - E. F. Butler

Chemists - J. K. Pigenshaw D.A. King

I. S. Bubes D. W. Gay W.W. Mills

H. H. Burton W. H. Johnston C.E. Shafer

Training Instructor - D. E. McKivney

Chief Supervisor - 100-300 Areas - W. E. Jordan

Assistant Chief Supervisor - Plant Assistance, Engineering - C. F. Kidder

100 Area - Engineering - R. H. Osterloh 1 W. K. Woods 8

W. R. Lewis 1

100 Area - Water & Corrosion - P. A. Dahlen 2

W. K. Alexander 2 L.G. Anderson 2 J.E. Dunbar 2 M. J. Smolinski 2

300 Area - Metallurgy - R.J. Schier 1 E.A. Smith 2 M.B. Vordahl 8

L. P. Bornwasser 1

R. M. Campbell 2 W.F. Kattner 2

T. S. Jones 2

R. M. Treco 4 R.D. McGreal 2

100 Area - Plant Assistance - Physics - P.V. East 5 W.R. Karna 5 U.M. Staebler 5

J. E. Guillolette 4

E. L. Menegus 1

E. B. Montgomery 5

100 Area - General Physics - C.W.J. Wende 8

H. A. Fowler 5 J.J. O'Connor 5 G.V. Packer 1 J.M. West 5 W.O. Switzer 1

Chief Supervisor - 200 Areas - G. E. Desetti

Senior Supervisor - Plant Assistance E21 Bldg. - R. S. Apple

Chemist - J. F. Gifford

Engineer (Assignment) - Plant Assistance E24 Bldg. - R. H. Beaton

Engineer (Chem.) - Plant Assistance E24 Bldg. - P. H. Lehman

Engineer (Chem.) - Plant Assistance E21 Bldg. - J. B. Work

1 - Engineer (Assignment)

2 - Engineer (Chemical)

3 - Metallurgist

4 - Jr. Technologist

5 - Physicist

6 - Technical Specialists

REPORTS & RECORDS

T. W. Hauff - Technical Specialist*

R. M. Coleman - Area Supervisor

* Reports directly to Management.

May 1, 1946

HANFORD ENGINEER WORKS

POWER DEPARTMENT

Superintendent - F. M. Acker

Assistant Superintendent - H. H. Miller

Chief Supervisor - 100-B,D,F Areas - H. F. Measley

Engineer (Results) - 100-B,D,F Areas - J. P. Langan

Water Supervisors - 100-B,D,F Areas - W. A. Conley, Jr. W. H. Skarshaug*

Assistant Chief Supervisor - 100-B Area - W.W. Pleasant** (Supv. in Training)

Senior Supervisors - Shift - R. L. Lance H. M. Cleveland

M.P. Johnson J. D. Turner H. K. Hale

Shift Supervisors - Bldgs. 185,

190, 108, 105 Valve Pit - R. J. King P. J. Crowder F. L. Reber

Foremen - Bldgs. 181, 182, 183, 184 -

S. G. Moores

J. W. Frymier B. E. Clark

H. C. Crase A. C. Whiteside

Senior Supervisor - Steam - F. L. Macke

Assistant Chief Supervisor - 100-D Area - A. Frew

Area Supervisor - J. C. McLaughlin

Senior Supervisors - Shift (Water Plant) - C. E. Harkins J. A. Haaga

D. W. Mathis J. M. Hale

I. L. Ellis C. A. Meadows

Shift Supervisors - Bldgs. 185, 186,

189, 190, 108, 105 Valve Pit -

L. E. Cave E. R. Hill

J. A. Church R. B. Crum

Foremen - Bldgs. 181, 182, 183 - W. L. Bowen F. J. Smith W. B. Zilar

O. M. Neal T. A. Askew E. D. Ferguson

Senior Supervisor - Steam - E. R. Keplinger

Shift Supervisors - Bldg. 184 -

O. J. Williams R. Jenkins

G. R. Smith G. R. Hale K. W. McKay

Assistant Chief Supervisor - 100-F Area - F. P. Britson

Area Supervisor - K. F. Fiest

Senior Supervisors - Shift (Water Plant) - H. M. Huff J. H. Dryer

G. C. Edwards E. W. Wilson

H. F. Livingston K. R. Leifermann

Shift Supervisors - Bldg. 185, 189,

190, 108, 105 Valve Pit -

J. R. Cartmell E. L. Van Kirk

H. R. Hicks H. A. Jones

Foremen - Bldgs. 181, 182, 183 -

K. J. MacLeod R. H. Hayward

C. P. Jones E. V. Starkebaum

Senior Supervisor - Steam - R. McDonald

Shift Supervisors - Bldg. 184 -

E. T. Tausch O. R. Eastwood

J. H. Tarpenning H. C. Nelson G. Watkins

* Special Assignment

** Temporary Assignment

May 1, 1946

HANFORD ENGINEER WORKS

POWER DEPARTMENT

(Continued)

Chief Supervisor - 200, 300, 700, 1100 Areas - J. A. Todd

Engineer (Results) - 200, 300, 700, 1100 Areas - H. A. Kramer

Area Supervisor - 200-E and 200-W Areas - H. G. Harder

Senior Supervisor - 200-W Area - G. R. McMillan

Shift Supervisors - E. F. Smith J. C. Wright J. H. Palmer

H. J. Schmitt J. P. O'Connell L. P. Shaffner

Senior Supervisor - 200-E Area - P. H. Klute

Shift Supervisors - Fred Cox, Jr. L. P. Bunn A. L. Henning E. G. Riley

Assistant Chief Supervisor - 300, 700, 1100 Areas - G. R. Calhoun

Senior Supervisor - 300, 700, 1100 Areas - H. N. Petty

Shift Supervisors -

G. G. Rose

R. Clement

V. I. Woodruff

K. F. Erickson

L. Goodwin

Senior Supervisor - A. C. Hyde - (Leave of absence)

May 1, 1946

HANFORD ENGINEER WORKS

MAINTENANCE DEPARTMENT

Superintendent - A. J. Schwertfeger

Assistant Superintendent - L. C. Ahrens

Area Engineer - (100 Areas) - J. F. Heberer

Assistant Area Engineer - (100-B) - R. R. Moyers

General Foreman - R. J. Browning (Spec. Assignment)

Assistant Area Engineer - (100-D) - J. W. Hageley, Jr.

Foreman -

C. E. Geer

B. E. Page

C. A. Bremer

J. C. Groom

H. B. Shafer

Assistant Area Engineer - (100-F) - K. K. Campbell

Foreman - J. A. Jensen

C. H. Bell

R. W. Willmott

J. P. Coffey

K. E. Harding R. M. Scott

Shift Engineers - S. F. Schure

F. B. Kramer

W. Seeburger V. W. Wood

General Foreman - E. E. Johnson

Foreman -

D. W. Clark

E. D. Allen

R. Musselman

Z. H. Mayberry

Area Engineer - (200 Areas) - E. C. Ramsauer

Assistant Area Engineer - R. T. Jessen

General Foreman - (200-W) - J. B. Hughes

Foreman - C. L. Poe

O. B. Palmer

B. M. Wright

J. N. Stewart

W. E. Finfrock G. L. Smith

General Foreman - (200-E) - J. F. Lee

Foreman - J. M. Blackburn

W. L. Soffe

P. E. L. Mussbaum

Shift Engineers -

E. H. Kolts

R. Y. Hays

W. E. Davis

D. C. Keck

Shift Foreman -

G. L. Shoberg

E. I. McCrerey

J. V. Clatworthy

H. C. Savage

Area Engineer - (300-700-1100 Areas) - K. D. Wallace

Assistant Area Engineer - J. M. Haffner, Jr.

General Foreman - (300) - E. W. Baker

Foreman - M. L. Sappenfield

J. W. Calderwood

General Foreman - (700-1100 Areas) - J. S. Crowder

Foreman - B. C. Main

H. W. Persons

M. F. Walker

L. Bellande

P. Sevedge

R. L. Vaught

W. M. Rupee

J. R. Goggin

H. L. Fisher

J. L. Gastkill

J. E. Hesutt

E. L. Woodburn

E. L. Merryman

Area Engineer - (Engineering Section) - W. D. Webb

Assistant Area Engineer - F. W. Caney

Engineer Assignment - (Design 100-300 Areas) - C. W. Anderson

Engineer Assignment - (Design 200 Areas) - C. H. Holt

Engineer Assignment - J. P. Cooke

D. I. Millett

M. M. Wainscott

Engineer Assignment - (Design 700-1100 Areas) - H. F. Peterson

Engineer Assignment - C. H. Bucholz

J. V. Lawler

R. B. Sturges

Engineer Assignment (Methods & Control Group Leader) - E. O. Dean

Engineer Assignment - F. Bowman

M. E. Yates

C. F. Haeske

O. H. Lang

J. T. Lloyd

G. R. Moore

J. H. Smithson

C. T. Kessell

E. S. Bell, Jr.

SECRET

May 1, 1946

HANFORD ENGINEER WORKS

ELECTRICAL DEPARTMENT

Superintendent - H. A. Carlberg

Assistant Superintendent - J. W. Brands

Area Engineer - 100 Areas - E. E. Weyerts

Assistant Area Engineer - 100-B - C. U. Hinson

Foreman - G. L. Givan

Assistant Area Engineer - 100-D - P. R. Engels

Foreman - H. E. Bennett

Assistant Area Engineer - 100-F - R. B. Britton

Foreman - R. H. Palmer

Engineers - E. J. O'Black C. D. Stahl

Area Engineer - 200, 300, 700, 1100 Areas - W. J. Davis

Assistant Area Engineer - 200-H - E. M. White

Foreman - E. F. Lainberger - A. L. Verner

Assistant Area Engineer - 200-W - H. F. Harman

Foreman - H. F. Smith W. J. Stubblefield

Assistant Area Engineer - 300, 700, 1100 - C. E. Bergdahl

Foreman - T. D. Gibbs (300) - D. C. Wheeler (700-1100)

Shift Engineer - Plant Telephone - B. J. Willingham

Foreman - L. S. Howard

Engineer - 700 - 1100 Areas - General - H. R. Hughes

Area Engineer - Distribution - J. C. Badenoch

Assistant Area Engineer - H. A. Rasmay

Engineer - Substation Operators - R. E. Leith

Foreman - V. R. Griffith

Shift Engineer - Line Maintenance - W. E. Houston

Foreman - R. J. Agen W. H. Hopkins P. G. Sease

Shift Engineer - Substation Maintenance - H. E. Evans

Foreman - H. M. Osborn E. G. Dosskey

Engineer - R. F. Haynes (Relaying & Protection)

Foreman - Communications - G. R. McKinney

SECRET

May 1, 1946

HANFORD ENGINEER WORKS

INSTRUMENT DEPARTMENT

Superintendent - W. F. Overbeck

Assistant Superintendent - H. J. Dorman

Area Engineer - 100 Areas - Kemper Stone

Assistant Area Engineer - 100-B - E. Hilgeman

Craft Foreman - C. O. Clementson C. D. Phelps

Assistant Area Engineer - 100-D Area - W. M. Mathis

Craft Foreman - P. H. Fleming J. D. McCullough

Assistant Area Engineer - 100-F Area - S. C. Lloyd, Jr.

Craft Foreman - E. B. Day, Jr. - W. A. Richards

Engineer (Assignment) - Y. K. Clement

Area Engineer - 200 Areas - H. E. Ostbahl

Assistant Area Engineer - 200 Areas - W. W. Porter, Jr.

Craft Foreman - 200-E Area - F. E. Peck P. E. Cunningham

Craft Foreman - 200-W Area - H. C. Mann - K. W. Phaling

Area Engineer - Shops - J. Q. du Pont

Assistant Area Engineer - Shops - O. D. Merrill

Craft Foreman - 300 Area - T. H. Cartmell H. L. Poole

Engineer (Assignment) - 700 Area - J. C. Haines

Craft Foreman - F. M. Stratton, Jr.

Engineer (Assignment) - H. T. Hildreth

Engineers (Assignment) - L. E. Taylor - J. M. Holman - B. E. Woodward

SECRET

May 1, 1946

INDUSTRIAL ENGINEERING WORK

TRANSPORTATION DEPARTMENT

Superintendent - R. T. Cooke

Assistant Superintendent - T. D. Pugh

General Foreman - Transportation & Traffic Offices - P. P. Barr

Senior Supervisor - Traffic - J. A. McWhigan

Chief Supervisor - Railway & Automotive Operations - H. G. Jones, Jr.

Senior Supervisor - H. L. Strathorn

Shift Supervisors - H. L. McWhigan A. P. Mitchell C. H. Cole

Shift Foreman - J. A. English

H. H. Deal H. H. Goff R. W. Shocker

B. A. DeGood M. D. McGruder M. H. Staven

C. R. Goff D. A. Redman L. G. Solberg

Yardmaster - F. A. Lynn

Chief Supervisor - Mechanical & Labor - H. W. Rice

Assistant Chief Supervisor - P. J. Maroe

Garage Foreman - L. A. Powell

Shift Foreman -

H. D. Beers

J. C. Emsor

G. E. LaPorte

F. W. Bell

R. L. Brown

H. L. Lewis

V. L. Bond

W. E. Green

J. L. Perry

L. E. Jones

Roundhouse Foreman - L. H. Hvert

Senior Supervisor - Labor - L. S. Johnson

General Foreman - C. W. Park - G. B. Mullins

Labor Foreman - G. E. Acorn C. H. Glick

G. T. Adams

W. B. Hinson

J. L. Millard

G. E. Broderick

T. M. Jones

K. H. Pachen

H. M. Hume

W. R. Jones

J. S. Phillips

H. L. Gagnabin

D. E. Lane

H. H. Terpstra

C. E. Cant

A. J. McKinnon

L. O. Williams

Maintenance Foreman - E. M. Hall (Track Maintenance)

Labor Foreman - F. C. Ayer

H. M. Cook

L. B. Russell

Maintenance Foreman - C. E. Longo - (Roads & Streets)

Labor Foreman - F. Doyle

Truck Foreman - U. P. Davis

May 1, 1946

HAN COB ENGINEER WORKS

SERVICE DEPARTMENT

Superintendent - W. T. Clow

Assistant Superintendent (Plant) - E. V. Albroditch

Chief Supervisor - Personnel - L. E. Scott

Assistant Chief Supervisor - Personnel - H. A. Hansen

Division Supervisor - Industrial Relations - W. T. Pope

Industrial Relations Counselors - D. C. Dayton S. E. Linter

Section Supervisor - Industrial Relations - C. F. Stuart (Welfare)

Division Supervisor - Personnel - R. L. Donnell

Section Supervisor - Employment - A. P. Radspott

Section Supervisor - General - C. F. Monnecker (Central Files)

Chief Supervisor - Safety & Fire Protection - J. V. Leonard

Division Supervisor - Safety & Fire - H. P. Jones

Engineers - Safety - R. A. Harlow J. F. H. Kelly L. R. Riggs H. W. Willins

Section Supervisor - Fire - R. H. Harc

Fire Chief - C. L. Olson (Village)

Assistant Fire Chiefs - F. J. Quane W. D. Sharpnack

Fire Captains - H. W. Anderson P. F. Rutt

Fire Lieutenants - W. C. Boloe W. C. Littrell J. E. Sherwood

D. A. Foster C. A. Devins H. E. Tresper

R. W. Hatfield M. G. Pearson W. A. Wright

Fire Chief - J. J. Whisher (Plant)

Fire Captains - G. A. Hirst P. S. Smith

Fire Lieutenants -

G. H. Lovell P. P. Perkins

L. J. Bresina K. H. McIlwain K. L. Peterson

R. O. Fortune L. P. Massel B. G. Figg

J. O. Hawkins E. R. Oder L. H. Rice

Division Supervisor - General - T. B. Mitchell

Foreman - Laundry - G. H. McCann G. W. Foxell

Foreman - Janitors -

W. Maguffee

J. J. Quinn

W. G. Freeland

J. L. Norwood

P. P. Springer

Assistant Superintendent (Village) - G. C. Houston

Division Supervisor - General - E. D. Haggitt (Community Facilities)

Section Supervisor - General - R. J. Pederson (Community Facilities)

Section Supervisor - General - D. B. Berst

Division Supervisor - General - C. F. Barnes (Community Activities)

Division Supervisor - General - H. E. Price (Housing)

Section Supervisor - General - H. T. Hinn (Tenant Service)

Section Supervisor - General - C. W. Weeks (Mental and Abolishment)

Foreman - General - D. L. Anderson (Dormitory)

Division Supervisor - General - K. M. White (Contracts & Records)

May 1, 1940

HAMFORD ENGINEER WORKS

SERVICE DEPARTMENT (PROTECTION)

Assistant Superintendent - E. L. Richmond

Chief Supervisor - (Security & Investigation).

Division Supervisor - (Investigation)

Section Supervisor - H. F. Johnstone (Investigation)

Division Supervisor - T. B. Farley (Security)

Section Supervisor - G. D. Barr (Spec. Assn. - Rep. & Rec. - Technical Department)

Chief Supervisor - C. C. Tallman (Patrol)

Division Supervisor - H. W. Strock (Industrial Areas)

Captain - S. F. Campbell, Jr. (200-E Area)

Lieutenants - H. S. Morse W. E. Spicer C. E. Rekonen L. G. A. Casey D. J. Hensley

Sergeants - G. R. Reese G. M. Everett W. M. Cox T. J. McGuire A. E. Carey

Captain - E. T. Fidler (200-E Area)

Lieutenants - E. Norris H. C. Pollard C. G. Hicks W. H. Ross

Sergeants - J. A. Bowman J. R. Evans

Captain - E. W. Sutherland (100-E Area)

Sergeants - C. L. Lubber C. E. Turner W. E. Jorgensen V. S. Olson

Captain - W. H. Pillsbury (100-D Area)

Lieutenants - C. Norbraten C. Uhrenholdt D. P. White H. L. Smith

Sergeants - E. W. Allen J. E. Coleman

Captain - W. A. Ziegler (100-F Area)

Lieutenants - C. C. Haelsig C. E. Jones R. E. Watts H. E. Faulkner

Captain - C. A. Whaley (300 Area)

Sergeants - J. W. Cheadle G. L. McGilbry W. A. Meyer L. W. Myers

Division Supervisor - W. P. Allen (Richland Area)

Sergeant - A. E. Barron (Traffic and Accident Investigation)

Lieutenant - J. Johnson (Crime Prevention)

Sergeants - L. M. Linkous L. M. Lyall

Lieutenants - A. A. Layman C. H. Overdahl J. K. Holmes A. L. Meyer

Sergeants - A. F. Novotny W. M. Kerr J. O. Cole R. H. Kays F. F. Beardsley

Division Supervisor - E. Weston (Administration)

Lieutenant - Supply - Emergency Procedure - Master Keys - Automotive Equip.

Sergeant - C. F. Klepper (Supply Administration - Master Keys)

Sergeant - A. J. Barnett (Emergency Procedure - Supply records)

Sergeants - (Emergency Officers) - F. J. Bihner W. J. Rosenberger

L. K. Woods J. C. Clark

Sergeant - H. F. Simpson (Automotive equipment)

Captain - A. L. Funk - Personnel & Records)

Captain - L. D. Wright - Training)

Sergeant - R. G. Burrus

May 1, 1946

HAWORTH ENGINEERING WORKS

MEDICAL DEPARTMENT

Superintendent - W. D. Norwood, M.D.

Senior Medical Specialist - (Village Medical) - T. J. Bulger, M.D.

Hospital Services - G. Thom - Senior Supervisor

Senior Supervisor - E. Pariss (Dietetics)

Pharmacist - M. A. Hilt

Senior Supervisor - E. Sikos (Nurses)

Senior Supervisor - M. Lee (Industrial)

Senior Supervisor - M. Sharpless (Hospital)

Senior Supervisor - A. McDonald (Obstetrics)

Senior Supervisor - R. Swift (Anesthesia)

Shift Supervisors - V. Bridges K. Konworthy (Surgery)

Shift Supervisor - M. Gavin (Isolation)

Shift Supervisor - W. Rosander (Medical)

Shift Supervisor - D. Carlson (Relief)

Shift Supervisor - R. Elsert (Village Medical)

Shift Supervisors - W. Albright E. Bieker

Shift Supervisor - R. Brookes (Public Health)

Shift Supervisor - E. Gregory (Anesthesia)

Specialists

Senior Physician - L. L. Davis, M.D. (Eye)

Medical Specialist - M. K. Petersen, M.D. (Obstetrician)

Medical Specialists - V. Shuman, M.D. E. T. Strongman, M.D. (Pediatricians)

Medical Specialist - L. F. Hulsman, M.D. (Ear, Nose, & Throat)

Medicine

Principal Physician - T. J. Albertowicz, M. D.

Principal Physician - J. S. Taylor, M.D.

Principal Physician - L. B. Harville, M.D.

Principal Physician - T. L. McGauvran, M.D.

Senior Supervisor - E. C. Berry (Bacteriology)

Chief Supervisor - E. H. Pittluck, D.D.S. (Dentist)

Physician - R. C. Thorell, D.D.S.

Senior Physician - O. D. Stevlingston, D.D.S.

Physician - J. F. Saylor, D.D.S.

Physician - A. Ridge, Jr., D.D.S.

Senior Physician - J. H. Thomas, D.D.S.

Senior Physician - F. Swell, D.D.S.

Senior Physician - F. A. Lemoine, D.D.S.

Chief Supervisor - F. A. Fugan, M.D. (Industrial Medicine)

Senior Supervisor - B. A. West (Laboratories)

Senior Physician - J. C. Miller, M.D. (Pre-Employment)

Senior Physician - B. C. Scudder, M.D. (Plant Medical)

Physician - J. A. de Freitas, M.D. (Plant Medical)

Physician - K. G. Broderick, M.D. (Plant Medical)

Senior Physician - J. A. Quigley, M.D. (Public Health)

Engineers (Assign.) - L. G. Koch J. I. Maston

May 1, 1940

HANFORD ENGINEER WORKS

MEDICAL DEPARTMENT

HEALTH INSTRUMENT SECTION

Assistant Superintendent - H. M. Parker (Health Instrument)

Chief Supervisor - C. C. Gamertsfelder

Senior Supervisor - C. M. Patterson (Survey)

Senior Supervisor - L. J. Cherubin (Survey Alternates)

Engineers -	P. R. Nelson	H. G. Ruppert
R. B. Bixler	F. G. Tabb	P. C. Jerman

Senior Supervisor - L. L. German (100 Areas & 300 Area)

Senior Supervisors - J. M. Smith, Jr. (100-D) W. A. McAdams (100-F)

Engineers -	L. F. Albright	R. G. Clough	B. Anderson, Jr.
W. Singlevich	W. F. Bulow	J. G. Myers (100-B)	

Engineer - R. W. Chamberlin (300)

Senior Supervisor - F. P. Seymour - (200 Areas)

Senior Supervisor - M. L. Mickelson - (200-F and 2723)

Engineers - W. C. Armstrong H. J. Paas R. A. Hultgren G. M. Rolph

Shift Supervisor - A. I. Moore (2723 Bldg.)

Senior Supervisor - C. R. E. Merkle, Jr. (200-B & N)

Engineers -	J. L. Gabriel	R. E. Olson
L. C. Roos	M. T. Lewis	G. P. Kesel

Senior Supervisor - H. A. Moulthrop (231 Bldg.)

Engineers - L. V. Barker C. B. Foster J. D. Duncan L. V. Zuerner

Senior Supervisor - J. W. Healy (Special Studies)

Senior Supervisor - P. L. Eisenacher

Engineers - K. L. Herde L. D. Phanka F. L. Vencill

Engineer - W. H. Delany, Jr. (Calibration)

Shift Supervisor - J. R. Hobaugh (706 Bldg.)

Engineer - F. J. Zelle (Records)

Senior Supervisor - L. D. Turner - Site Survey

Engineers - J. W. Anderson J. M. Campbell

Senior Supervisor - J. C. Hart - (Personnel Meters)

Shift Supervisors -	K. F. Bladridge	B. J. Galbraith	H. C. Money (Pencils)
J. C. Ledbetter	N. W. Hope	C. L. Wheador	(Badges)

May 1, 1946

HANFORD ENGINEER WORKS

ACCOUNTING DEPARTMENT

Chief Accountant - S. D. Ewing

Assistant Chief Accountant - J. I. Moffett

Chief Clerk - Accounting - R. L. Meekins

Assistant Chief Clerk - W. S. Roe

Supervisor - Accounting - R. H. Hopkins

Senior Clerk - Accounting - R. C. Forbes

Chief Clerk - Operations - R. W. Carriger

Assistant Chief Clerk - C. E. Poshlein

Supervisor - Stores - C. J. Sheeran

Assistant Supervisor - Stores - T. L. Lindgren

Supervisor - Purchases - W. A. Jeffrey

Assistant Supervisor - W. A. Bearden

Supervisor - Accounting - R. S. Quarles

Assistant Supervisor - Accounting - I. D. Behymer

Supervisor - Accounting

Assistant Supervisor - Accounting - B. R. Hennigar

Senior Clerk - Accounting - T. G. Stanfield

Senior Clerk - Accounting - D. A. Hauser

May 1, 1946

HANFORD ENGINEER WORKS

SUMMARY

EXH PT

Manager	1
Assistant Manager	1
Production Superintendent	1
Technical Superintendent	1
Works Engineer	1
Superintendents	9
Assistant Superintendents	11
Chief Supervisors	18
Assistant Chief Supervisors	17
Area Supervisors	21
Senior Supervisors	85
Water Supervisors	2
Shift Supervisors	118
Area Engineers	10
Assistant Area Engineers	18
Shift Engineers	11
Foreman	155
Yardmasters	2
Engineer Assignment	82
Engineer Chemical	12
Supervisors in Training	4
Jr. Technologists	2
Metallurgist	1
Physicist	7
Chemist	12
Division Supervisor	12
Section Supervisor	10
Counselor	2
Fire Captain	4
Fire Lieutenant	20
Fire Chief	2
Assistant Fire Chief	2
Safety Engineer	4
Patrol Captain	8
Patrol Lieutenant	22
Patrol Sergeant	35
Chief Accountant	1
Assistant Chief Accountant	1
Chief Clerk	2
Assistant Chief Clerk	2
Supervisor	4
Assistant Supervisor	4
Senior Clerk	3
Physician	17
Medical Specialist	6
Pharmacist	1
Training Instructor	1
Technical Specialist	3
TOTAL	786

May 1, 1946

HAMFORD ENGINEER WORKS

SUMMARY

NON-EXEMPT

Senior Clerk	40
Clerk	135
Jr. Clerk	152
Secretary	19
Chief Stenographer	3
Stenographer	75
Typist	40
Messenger	8
Chief Telephone Operator	3
Telephone Operator	34
Office Machine Operator	46
Office Helper	85
Nurse	81
Medical Technician	25
Medical Attendant	2
Helper	159
Laborer	159
Cook	1
Inspector	23
Electrician	152
Groundman	11
Instrument Mechanic	97
Draftsman	10
Jr. Engineer	2
Estimator	11
Mechanic	342
Painter	40
Tool and Store Attendant	13
Chief Operator	54
Operator	770
Coal Handler	27
Auto Mechanic	64
Oiler	39
Crane Operator	10
Tractor Operator	14
Equipment Inspector	5
Employment Investigator	2
Trunk Driver	52
Patrolman	366
Radio Operator	5
Matron	7
Safety Inspector	1
Fire Protection Inspector	25

May 1, 1946

HANFORD ENGINEER WORKS

SUMMARY

NON-EXEMPT

(Continued)

Employment Interviewer	2
Locomotive Operator	7
Fingerprinter	1
Seamstress	3
Conductor	6
Switchman	9
Trackman	20
Weighmaster	1
Shuttle Driver	186
Photographer	1
Fireman	72
Laundry Operator	2
Janitor	71
Laundry Attendant	7
Chemist	50
Analyst	8
Laboratorians	97
Laboratory Attendant	1
Technician	1
Process Inspector	0
TOTAL	3780

HANFORD ENGINEER WORKS
ORGANIZATION ANNOUNCEMENT NO. A-15

SUBJECT: ORGANIZATION CHART

The attached Hanford Engineer Works Organization Chart, effective November 1, 1946, will supersede that which was issued on September 1, 1946. The previous organization charts now in your possession are to be returned promptly to the YOO Area File.

/s/ D. H. LAUDER
D. H. LAUDER
WORKS MANAGER

DHL/vlc
Attachment

Distributions: List 1

11/7/46

NOVEMBER 1, 1946

HANFORD ENGINEER WORKS
STAFF ORGANIZATION CHART

Manager - D. H. Lauder

Assistant Manager - G. G. Lail

Production Superintendent - C. N. Gross

P Department Superintendent - J. E. Maider

S Department Superintendent - W. K. MacCready

Technical Department Superintendent - A. B. Greninger

Service Department Superintendent - E. L. Richmond

Works Engineer - W. P. Overbeck

Power Department Superintendent - H. H. Miller

Maintenance Department Superintendent - W. W. Pleasants

Electrical Department Superintendent - H. A. Carlberg

Instrument Department Superintendent -

Transportation Department Superintendent - R. T. Cooke

Medical Department Superintendent - W. D. Norwood, M.D.

Works Accountant - F. E. Baker

Design and Construction Department Superintendent - F. W. Wilson

November 1, 1946

HANFORD ENGINEER WORKS

P DEPARTMENT

Superintendent - J. E. Maider

Assistant Superintendent - E. P. Lee

Chief Supervisor - B & D Areas - W. P. McCue

Area Supervisor - B Area - W. P. Rankin

Shift Supervisors - H. E. Berg J. H. M. Miller

G. B. Jex K. T. Perkins E. A. Wegener

Assistant Chief Supervisors - D Area - M. Davis P. E. Lowe

Area Supervisors - J. T. Baker R. D. Miller

D. S. Lewis W. P. Nicklason

Senior Supervisor - J. Haaga

Shift Supervisors - J. G. Bradley D. O. Montgomery

B. M. Kaspar E. W. O'Rourke

Chief Supervisor - F Area - J. H. Warren

Assistant Chief Supervisors - H. L. Henry W. W. Windsheimer

Area Supervisors - G. B. Carlton G. A. Peterson

A. A. Janos H. T. Wells

Shift Supervisors - J. E. Greever L. H. Wallace

H. A. Laybourne E. S. Whittaker

Chief Supervisor - 300 Area - R. O. Moham

Area Supervisor - W. A. Blanton

Senior Supervisor - F. E. Jocher

Shift Supervisor - F. A. Snyder

Foremen - J. H. Kelly W. R. Kirk

Senior Supervisor - S. L. Nelson

Shift Supervisor - J. E. Shipp

Engineer (Assignment) - D. L. DeNeal

Foremen - L. Mickelson W. H. Timmerman

Engineer (Assignment) - W. G. Barnett

November 1, 1940

HANFORD ENGINEER WORKS

S DEPARTMENT

Superintendent - W. K. MacCready

Assistant Superintendent - R. S. Bell

Chief Supervisor - T Plant and 231 - K. C. Vint

Assistant Chief Supervisor - T Plant - V. R. Chapman

Area Supervisors - F. Moss O. V. Smiset

Senior Supervisors - E. F. Curren P. G. Rhoades

L. F. Hardy L. H. Rynd

W. H. Mobley E. F. Smith

W. B. Reed J. P. Turping

Shift Supervisors - G. E. Hahn E. E. Teese

J. L. Rogers

Senior Supervisor - Meteorological - D. E. Jenne

Engineer (Assignment) - A. Hester

Assistant Chief Supervisor - 231 Building - E. A. Foskett

Area Supervisor - L. I. Brecke

Senior Supervisors - J. B. Chaney J. F. Donnelly

J. T. Christy S. G. Smolen

Shift Supervisors - J. G. Attanas T. C. Kilgess

F. C. Black B. D. Wilson

M. E. Jackson

Chief Supervisor - B Plant - S. D. Smiley

Assistant Chief Supervisor - B Plant - T. Prudich

Area Supervisors - C. T. Groszith F. A. R. Stainken

Senior Supervisors - S. I. Allen R. K. Messick

J. R. Barber A. S. Henry

O. P. Beaulieu M. A. Phillips

H. W. Huntley W. M. Wiernan

R. L. Lance W. A. Wright

Shift Supervisors - G. K. Carpenter J. K. Fine

J. R. Cartmell E. L. Kelley

B. E. Clark F. R. Lewis

Senior Supervisor (Records) - V. D. Donihoe

HANFORD ENGINEER WORKS
TECHNICAL DEPARTMENT

November 1, 1946

Superintendent - A. B. Greninger

Special Assistant - T. W. Hauff

Senior Supervisor (Statistics) - B. F. Butler

Chief Supervisor - Laboratories - R. E. Curtis

Assistant Chief Supervisor - R. E. Fenninger

Area Supervisor (Control 200 Areas) - L. M. Knights

Senior Supervisor - (222-B) - P. F. X. Dunigan

Shift Supervisors - C. F. Amacker J. W. Jordan

L. A. Berry J. F. Walker

Senior Supervisor - (231) - J. W. Hall

Shift Supervisors - R. B. Abrams E. W. Murray

H. F. Matthiesen R. E. Roberts

Chemist - P. B. Fisk

Area Supervisor - Essential Materials, 100-300 Area Control - R. J. Hale (Acting)

Senior Supervisor - (100-B, D and F) - J. S. Stoakes

Shift Supervisors - G. W. Baldwin D. H. Elderkin E. P. Galbraith

W. M. Koop H. A. Paulsen

Senior Supervisor - (Essential Materials, 300 Area) - E. W. Rebol (Acting)

Shift Supervisor - C. E. Shafer

Chemist - F. R. Anderson

Chemists - W. W. Marshall - W. W. Mills - L. F. Kendall

Chemists - H. E. Burton R. D. Fletcher W. E. Thompson

J. K. Figenshau D. P. Shepard (Shift Supr.) W. J. Rasmussen

Junior Technologist (Manuals) - D. W. McElveny

Chief Supervisor - 100-300 Areas - C. W. J. Wende

100 Area - Engineering - W. K. Woods (6)

W. K. Alexander (2) W. R. Lewis (1) C. P. Cabell (2)

S. S. Jones (2) R. A. Rohrbacher (4)

300 Area - Area Supervisor - E. A. Smith

W. T. Kattner (2) T. S. Jones (2) L. A. Hartoorn (8)

R. D. McGreal (2) R. M. Treco (4) A. T. Strand (1)

100 Area - Physics - Area Supervisor - P. F. Gast

U. M. Staebler (6) H. A. Fowler (6) E. B. Montgomery (6) G. H. Syrov (1)

G. V. Paeker (1) J. M. West (6) E. A. Baskin (8)

F. E. Kruesi (4) C. V. Larrick (1) K. L. Boring (1)

Chief Supervisor - 200 Areas - J. E. Work

Plant Assistance - 221 Bldg. - E. E. Greffrath (2) E. J. Reber (1) W. J. Walsh (4)

Plant Assistance - 224 Bldg. - W. M. Marty (1) M. J. Szulinski (2)

Plant Assistance - 231 Bldg. - D. W. Haught (1) E. V. Flock (2)

Chief Supervisor - Chemical Development - R. H. Beaton

H. M. Jones (1) J. M. Frame (2) W. A. Ray (1) R. E. Olson (1)

H. M. Hubble (2) M. K. Harmon (1) R. J. Moore (4) R. E. Tomlinson (2)

H. E. Banthorn (1) N. G. Wittenbrock (2)

1 - Engineer (Assignment)

5 - Physicist

2 - Engineer (Chemical)

6 - Technical Specialist

3 - Metallurgist

7 - Supervisor in Training

4 - Jr. Technologist

8 - Chemist

*W. A. Briggs, Jr., Area Supervisor 100-300, on loan to Service Department

MANFORD ENGINEER WORKS

POWER DEPARTMENT

Adent - H. H. Miller

at Superintendent - H. F. Measley

Supervisor - 100-B, D, F Areas - A. Frew

ngineer (Results) - 100-B, D, F Areas - J. P. Langan

ater Supervisor - 100-B, D, F Areas - W. R. Conley, Jr.

lor Supervisor - 100-B Area - H. M. Huff

Shift Supervisors - 100-B Area - A. C. Whiteside P. J. Crowder R. J. King
S. G. Moores J. W. Frymier

Senior Supervisor - Steam - F. L. Macke

stant Chief Supervisor - 100-D Area - J. C. McLaughlin

rea Supervisor - N. H. Skarshaug

Senior Supervisors (Water Plant) - C. E. Markins I. L. Ellis E. D. Ferguson
L. S. Cave K. W. McKay H. P. Johnson

Shift Supervisors - Bldgs. 185, 186, - R. B. Crum E. R. Hill
189, 190, 108, 105 Valve Pit - W. L. Bowen W. B. Zilar

Foremen - Bldgs. 181, 182, 183 - F. J. Smith F. L. Van Wyck T. A. Ashew
S. Rivenbark P. E. Whiteside

Senior Supervisor - Steam - E. R. Keplinger

Shift Supervisors - Bldg. 184 - C. J. Williams G. R. Hale
R. Jenkins C. R. Smith

stant Chief Supervisor - 100-F Area - F. F. Britson

rea Supervisor - E. F. Priest

Senior Supervisors - Shift (Water Plant) - M. Mathis J. H. Dryer J. D. Turner
E. A. Wilson H. R. Hicks J. H. Tarpenning

Shift Supervisors - Bldgs. 185, 189, - E. L. Van Kirk C. P. Jones
190, 108, 105 Valve Pit - H. A. Jones H. C. Crose

Foremen - Bldgs. 181, 182, 183 - R. H. Hayward E. V. Starkebaum J. E. Benham
K. J. MacLeod A. E. Brown

Senior Supervisor - Steam - R. McDonald

Shift Supervisors - Bldg. 184 - H. C. Nelson E. T. Tausch
G. Watkins O. R. Eastwood

Supervisor - 200, 300, 700, 1100 Areas - J. A. Todd

ngineer (Results) - 200, 300, 700, 1100 Areas - H. A. Kramer

a Supervisor - 200-E, W Areas - H. G. Harder

Senior Supervisor - 200-W Area - G. R. McMillan

Shift Supervisors - L. P. Shaffner J. P. O'Connell N. J. Schmitt
E. F. Smith J. C. Wright

Senior Supervisor - 200-E Area - P. H. Klute

Shift Supervisors - J. H. Palmer K. G. Riley L. P. Duma
A. L. Henning F. Cox, Jr.

a Supervisor - 300, 700, 1100 Areas - K. R. Leifermann

Senior Supervisor - 300, 700, 1100 Areas - H. N. Petty

Shift Supervisors - C. G. Ross R. Clement V. I. Woodruff
L. C. Goodwin K. F. Erickson

November 1, 1946

HANFORD ENGINEER WORKS

MAINTENANCE DEPARTMENT

Superintendent - W. W. Pleasant

Assistant Superintendent - J. F. Heberer

Area Engineer - (100 Areas) - H. K. Meyers

Assistant Area Engineer - (100-B & 100-D) - J. W. Nageley, Jr.

General Foreman - (100-B) - R. J. Browning

Foreman - (100-D) - C. A. Brenner

Foreman - (100-B, 100-D, 100-F) Shifts - C. E. Geer

J. C. Groom H. B. Shafer R. W. Willmott

Assistant Area Engineer - (100-F) - K. K. Campbell

Foremen - J. A. Jensen E. E. Page

General Foreman - E. E. Johnson

Foremen - D. W. Clark R. M. Scott R. Musselman

K. E. Harding

Shift Engineers - (All Areas) - E. H. Kolts D. C. Keck

F. B. Kramer M. E. Yates

Area Engineer - (200 Areas) - R. T. Jessen

Assistant Area Engineer - W. E. Davis

General Foreman - (200-W) J. B. Hughes

Foremen - C. L. Poe W. E. Finrock B. M. Wright

O. B. Palmer J. H. Stewart

General Foreman - (200-E) - J. F. Lee

Foreman - J. M. Blackburn F. E. L. Hussbaum W. L. Soffe

Foremen - (200-E, 200-W) Shifts - G. L. Shoberg

C. I. McCrary J. V. Clatworthy H. C. Savage

Area Engineer - (300-700-1100) - J. M. Heffner

Assistant Area Engineer - W. Seeburger

General Foreman - (300) - E. W. Baker

Foremen - J. W. Calderwood K. L. Sappenfield

General Foreman - (700-1100) - M. F. Walker F. Sevedge

J. S. Crowder

Foremen - B. C. Bain J. E. Hocutt J. L. Gastkill

M. W. Persons E. A. Lynn R. L. Vaught

L. H. Mayberry E. L. Woodburn E. L. Merryman

L. Bellande J. B. Goggin C. H. Bell

Area Engineer - Engineering Section - S. F. Schure

Assistant Area Engineer - J. P. Cooke

Eng. Assign. - Special - V. W. Wood

Eng. Assign. - Group Leader - Studies - F. A. Bowman

Eng. Assign. - E. S. Bell

Eng. Assign. - D. M. Brown

Eng. Assign. - C. T. Kessel, C. H. Lang, J. V. Lawler

Eng. Assign. - G. R. Moore

Eng. Assign. - H. P. Shaw

Eng. Assign. J. H. Smithson

Eng. Assign. - G. P. Kessel

Eng. Assign. - Group Leader - Projects - H. F. Peterson

Eng. Assign. - 100-300 - C. W. Hay

Eng. Assign. - M. G. Patrick

Eng. Assign. - 200 - R. Overson

Eng. Assign. - C. D. Chalmers, E. A. Lee

Eng. Assign. - 700-1100 - C. Bucholtz

Eng. Assign. - M. R. Dempster, V. R. Hill

Eng. Assign. - R. L. Brown

Eng. Assign. - Group Leader - Design -

Eng. Assign. - R. B. Sturges, J. T. Lloyd

Eng. Assign. - Group Leader - Development - C. H. Holt

Eng. Assign. - D. I. Millet, J. G. Brown

Eng. Assign. - Material Control - C. F. Meske

November 1, 1946

INSTRUMENT DEPARTMENT

Superintendent - Vacancy

Assistant Superintendent - Vacancy

Area Engineer - 100 Areas - E. Hilgeman

Craft Foreman - 100-E Area - W. A. Richards

Assistant Area Engineer - 100-D Area - T. M. Clement

Craft Foremen - C. D. Phelps, M. W. Bjur

Assistant Area Engineer - 100-F Area - E. S. Day, Jr.

Craft Foremen - R. C. Theil, C. O. Clemetson

Area Engineer - 200 Areas - W. W. Porter, Jr.

Assistant Area Engineer - F. K. Peck

Craft Foremen - 200-E Area - F. E. Cunningham, C. J. Weichel

Craft Foremen - 200-W Area - R. C. Mann, K. W. Phaling

Area Engineer - Shops - W. M. Mathis

Assistant Area Engineer - 300 Area - W. T. E. Elmendorf

Craft Foremen - R. W. Lutz, J. D. McCullough, H. L. Poole

Engineer (Assignment) - R. K. Bollinger

Assistant Area Engineer - 700-1100 Areas - J. G. Haines

Craft Foreman - F. M. Stratton, Jr.

Engineer (Assignment) - M. T. Hildreth

Supervisor in Training - Instrument Development - M. G. Barnard

Engineers (Assignment) - B. E. Woodward, J. M. Holman

Craft Foreman - T. E. Cartmell

November 1, 1946

HANFORD ENGINEER WORKS

ELECTRICAL DEPARTMENT

Superintendent - H. A. Carlberg

Assistant Superintendent -

Area Engineer - 100 Areas - E. E. Weyerts

Assistant Area Engineer - 100-E & 100-F - R. E. Britton

Foremen - G. L. Givan - 100-E

R. H. Palmer - 100-F

Assistant Area Engineer - 100-D - P. R. Engels

Foreman - H. E. Bennett

Engineer (Assign.) - E. J. O'Black

Area Engineer - 200, 300, 700, & 1100 Areas - W. J. Davis

Assistant Area Engineer - 200-E - E. M. White

Foreman - E. F. Leinberger

Assistant Area Engineer - 200-W - A. L. Vosmer

Foremen - R. F. Smith - W. J. Stubblefield

Assistant Area Engineer - 300, 700 & 1100 - C. R. Bergdahl

Foremen - T. D. Gibbs - 300

D. C. Wheeler - 700 & 1100

Shift Engineer - Plant Telephone - E. J. Willingham

Foreman - L. S. Howard

Engineers (Assign.) - 200 Areas - A. A. Maxwell

700 & 1100 Areas - General - H. R. Hughes

Area Engineer - Distribution - J. C. Badenoch

Assistant Area Engineer - C. C. Hinson

Shift Engineer - Line Maintenance - W. E. Houston

Foremen - R. J. Agen - W. H. Hopkins - P. G. Sease

Shift Engineer - Substation Maintenance - H. E. Evans

Foremen - H. M. Osborn - E. G. Dosskey

Assistant Area Engineer - E. A. Remaly

Engineer (Assign.) - Relaying and Protection - R. F. Haynes

Engineer (Assign.) - Training - C. D. Stahl

Foreman - Substation Operators and Dispatchers - V. R. Griffith

Foreman - Communications - G. R. McKinney

November 1, 1946

HANFORD ENGINEER WORKS

SERVICE DEPARTMENT - VILLAGE

Service Superintendent - E. L. Richmond

Asst. Service Superintendent - G. C. Houston

Division Supervisor - Special Assignments - E. S. Baker

Division Supervisor -
Performance of Community Facilities - H. J. Pederson

Section Supervisor - Commercials -

Division Supervisor - Contacts -
Community Activities - C. F. Barnes

Section Supervisor - D. H. Berst

Division Supervisor - Contracts and Negotiations - R. M. White

Section Supervisor - Facilities - Property - W. C. Poe

Division Supervisor - Housing - H. E. Price

Section Supervisor - Tenant Service - M. T. Binn

Section Supervisor - Rental and Assignment - C. W. Weeks

Sanitary Foreman - Dormitories - D. L. Anderson

[REDACTED]

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SERVICE DEPARTMENT - PLANT

Assistant Service Superintendent (Plant) - T. B. Fugh

Chief Supervisor - Safety & Fire Protection - S. B. Badgett

Division Supervisor - Safety & Fire - H. E. Jones

Engineers - Safety - J. F. H. Kelly, W. H. Roos

L. R. Riggs F. J. Williams

Section Supervisor - Fire - R. H. Hare

Fire Chief - C. L. Olson (Village)

Assistant Fire Chiefs - P. J. Quane, W. D. Sharpnack

Fire Captains - H. W. Anderson, F. F. Rutt, P. S. Smith

Fire Lieutenants - H. G. Boice E. A. Mitchell

C. A. Caldwell C. A. Nevins

R. G. Hatfield H. G. Pearson

George Knapp J. E. Sherwood

W. C. Littrell H. E. Trosper

Fire Chief - J. J. Whicher (Plant)

Fire Captain - G. A. Hirst

Fire Lieutenants - L. J. Brosina

P. P. Perkins

R. O. Fortune

B. G. PIKE

J. O. Hawkins

K. I. Peterson

G. O. Agor

K. McElvenny

E. R. Oder

L. H. Rice

Division Supervisor - General - T. B. Mitchell

Foreman (728 Laundry) - G. W. Powell

Foreman (2723-W Laundry) - G. H. McCannion

Foremen (Janitor) - W. G. Freeland J. J. Quinn

W. Maguffee

P. P. Springer

J. L. Norwood

Area Supervisor - W. A. Briggs* (Classified Files)

Section Supervisor - E. A. Webb (700 Area)

Section Supervisor - M. Freidank (300 Area)

Section Supervisor - General (Reports and Records) - C. P. Monnecker

* On loan from Technical Department

November 1, 1946

HANFORD ENGINEER WORKS

SERVICE DEPARTMENT (PROTECTION)

Assistant Superintendent - C. C. Tallman

Chief Supervisor - (Security) -

Division Supervisor - T. E. Farley

Section Supervisor - R. E. Jaynes

Chief Supervisor - (Patrol) - H. W. Strook

Division Supervisor - (Industrial Areas) - W. E. Pillsbury

Captain - (200 East Area) - S. F. Campbell, Jr.

Lieutenants - H. S. Morse, C. E. Rekonen, D. J. Hensley, J. D. Mayfield

Sergeants - C. R. Reese, G. M. Everett, W. M. Cox, H. V. Neige

Captain - (200 West Area) - E. T. Fidler

Lieutenants - H. Morris, H. C. Pollard, C. G. Hicks, L. G. A. Casey

Sergeants - J. A. Bowman, J. R. Evans

Captain - (100-B Area) - H. W. Winslow

Sergeants - C. L. Luebber, C. E. Turner, W. E. Jorgenson, N. L. Gross

Captain - (100-D Area) - E. W. Sutherland

Lieutenants - C. Norbraten, C. Uhrenholdt, D. P. White, H. L. Smith

Sergeants - J. E. Coleman, K. J. Book

Captain - (100-F Area) - W. A. Ziegler

Lieutenants - C. C. Haelsig, C. E. Jones, R. E. Watts, H. E. Faulkner

Sergeant - B. W. Allen

Captain - (300 Area) - C. A. Whaley

Sergeants - W. J. Cheadle, G. L. McGilbry, W. A. Meyer, L. W. Myers

Division Supervisor - (Richland Area) - W. P. Allen

Sergeants - (Traffic and Accident Investigation) - A. E. Barron

Lieutenant - (Crime Prevention) - J. Johnson

Sergeants - L. M. Linkous, L. M. Lyall, F. J. Schultz

Lieutenants - A. A. Layman, C. H. Overdahl, J. K. Holmes, A. L. Meyer

Sergeants - A. P. Novotny, W. M. Kerr, R. E. Kays, F. F. Seardsley,

T. J. McGuire

Division Supervisor - (Administration) - E. Weston

Lieutenant - (Supply, Emergency Procedure, Master Keys, Automotive Equip.)

Sergeant - (Supply Administration, Master Keys) - C. F. Klepper

Sergeant - (Emergency Procedure, Supply Records) - A. J. Barnett

Sergeants - (Emergency Officers) - F. J. Bihner V. S. Olson

L. K. Woods J. C. Clark

Sergeant - (Automotive Equipment) - H. F. Simpson

Captain - (Personnel and Records) - A. L. Funk

Captain - (Training) - L. D. Wright

Sergeants - R. G. Burrus, L. C. McGuinn

SECRET

November 1, 1946

HANFORD ENGINEER WORKS
SERVICE DEPARTMENT - PERSONNEL

Asst. Service Superintendent - H. E. Callahan

Chief Supervisor - Personnel - H. E. Scott

Division Supervisor - Personnel - G. D. Barr

Section Supvr. - Investigation - H. F. Johnstone

Section Supvr. - Employment (Procurement) - R. E. Donnell

Section Supvr. - Employment (Procedure) - G. D. Dayton

Section Supvr. - Employment (Files) - A. P. Hudspeth

Division Supervisor - Industrial Relations - W. T. Pope

Section Supervisor - Selective Service -

Section Supervisor - Industrial Relations - S. E. Linter

Industrial Relations Counselor (700 Area) - J. A. Wood

Industrial Relations Counselor (200 Areas) - T. Purton

Industrial Relations Counselor (100 Areas) - W. Smythe

Assistant Division Supervisor - Compensation & Insurance -
B. K. Phillips

Section Supervisor - (Women Activities) - D. Kinkaid

Chief Supervisor - Education & Training - F. E. Johnson

Asst. Chief Supervisor -

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HANFORD ENGINEER WORKS
TRANSPORTATION DEPARTMENT - ORGANIZATION
NOVEMBER 1, 1946

Superintendent - R. T. Cooke

Asst. Superintendent - T. G. La Follette

General Foreman - P. P. Barr (Acting Office Engineer)

Senior Supervisor - Traffic - J. A. Mc Swigan

Chief Supervisor - Railway and Automotive Operations - E. G. Jones, Jr.

Shift Supervisor - C. R. Cole

R. L. Mc Gahee A. P. Mitchell

Shift Foremen - J. E. English C. R. Goff R. W. Sheckler

K. H. Dean H. E. Greff M. M. Skeen

B. A. De Good D. A. Redman L. G. Solberg

Yardmaster - F. A. Lynn

Chief Supervisor - Mechanical and Labor - M. F. Rice

Asst. Chief Supervisor - W. L. Straughen

Senior Supervisor - Mechanical - L. A. Powell

Garage Foreman - J. C. Ensor

Shift Foremen - H. B. Boers J. L. Perry C. S. La Porte

F. W. Bell W. E. Green H. L. Lewis

V. L. Bond L. E. Jones L. R. Richards

Roundhouse Foreman - L. W. Evert

Senior Supervisor - Labor - L. S. Johnson

General Foreman - K. J. Parchen

Truck Foreman - O. F. Davis

Labor Foremen - G. E. Broderson A. J. Mc Kinnon

M. L. Gagnebin J. E. Millard

W. B. Hinson J. S. Phillips

T. M. Jones H. M. Terpstra

W. R. Jones

Maintenance Foreman - Areas and Heavy Equipment - C. W. Funk

Labor Foremen - G. E. Acorn H. M. Emmons E. E. Gillum

G. T. Adams C. E. Gant C. J. Glade

L. O. Williams

General Foreman - Streets - Roads - Tracks - E. M. Hull

Labor Foremen - Tracks - H. M. Cook M. D. Mc Gruder

L. B. Russell

Maintenance Foreman - Streets and Roads - C. E. Lange

Labor Foreman - F. Doyle

MEDICAL DEPARTMENTORGANIZATION CHARTSuperintendent - W. D. Norwood, M. D.Asst. Medical Supt. - (Village Medical)Chief Supervisor - G. Thom (Hospital Services)Senior Supervisor - E. Fariss (Dietetics)Pharmacist - M. A. HiltSenior Supervisor - E. Sikes (Nurses)Senior Supervisor - E. Quigley (Industrial)Senior Supervisor - M. Sharpless (Hospital)Senior Supervisor - A. McDonald (Obstetrics)Senior Supervisor - R. Swift (Anesthesia)Shift Supervisors - V. Bridges K. Hayes (Surgery)Shift Supervisor - W. Rosander (Medical)Shift Supervisor - D. Carlson (Relief)Shift Supervisor - E. McClaran (Anesthesia)Shift Supervisor - R. Eisert (Village Medical)Shift Supervisors - M. Albright B. BiekerShift Supervisor - A. O'Leary (Public Health)SpecialistsSenior Medical Specialist - R. E. De Nicola, M. D. (Surgeon)Medical Specialist - B. Lih, M. D. (Surgeon)Medical Specialist - M. R. Petersen, M. D. (Obstetrician)Senior Medical Specialist - E. K. Broen, M. D. (Obstetrician)Medical Specialist - V. Shuman, M. D. (Pediatrician)Medical Specialist - B. T. Strongman, M. D. (Pediatrician)Medical Specialist - L. F. Hilsman, M. D. (Ear, Nose & Throat)Senior Physician - L. L. Davis, M. D. (Eye)MedicinePrincipal Physician - T. J. Albertowick, M. D.Principal Physician - J. S. Taylor, M. D.Principal Physician - L. E. Harville, M. D.Senior Supervisor - E. C. Berry (Bacteriologist)Chief Supervisor - E. E. Pitluck, D. D. S. (Dentist)Physician - J. F. Saylor, D. D. S.Physician -Physician - G. M. Hassur, D. D. S.Senior Physician -Chief Supervisor - F. A. Fuqua, M. D. (Industrial Medicine)Senior Supervisor - J. Turner (Laboratories)Shift Supervisor - B. C. Ritter (Laboratories)Senior Physician - J. C. Miller, M. D. (Pre-employment)Senior Physician - E. C. Scudder, M. D. (Plant Medical)Senior Physician - J. Thaler, M. D. (Plant Medical)Senior Physician - K. C. Brockman, M. D. (Plant Medical)Medical Specialist - R. R. Sachs, M. D. (Public Health)Engineers (Assignment) - L. G. Koch J. I. Maston (Sanitarians)

November 1, 1940

MEDICAL DEPARTMENT - (HEALTH INSTRUMENT SECTION)

Ass't. Superintendent - H. M. Parker - (Health Instrument)

Chief Supervisor - (Operational) - C. M. Patterson

Ass't. Chief Supervisor - (Survey) - L. L. German

Senior Supervisor - (Survey) (Alternates) - L. J. Cherubin

Engineers - F. C. Jerman J. D. Duncan
L. C. Roos J. G. Myers

Area Supervisor - (100 Areas & 300 Area) - M. L. Mickelson

Senior Supervisors - J. M. Smith, Jr. (100-D) - W. A. McAdams (100-F)

Engineers - B. Anderson, Jr. R. G. Clough F. Griffiths
W. C. Reinig M. T. Lewis L. P. Rolph G. W. Pomeroy

Senior Supervisor - (300) - R. B. Bixler

Engineer -----

Engineer (Section Records) - F. J. Zelley

Area Supervisor - (200 Areas) - F. P. Seymour

Senior Supervisor - (200-T) - P. R. Nelson

Engineers - L. V. Barker L. V. Zuerner J. D. Ryan
R. W. Harvey C. B. Foster S. R. Smith

Senior Supervisor - (200 B & W) - C. E. E. Merkle, Jr.

Engineers - G. M. Rolph R. A. Hultgren
W. C. Armstrong A. R. Keene R. T. Woolsey

Senior Supervisor - (231 Bldg. & 2723 Bldg.) - H. A. Moulthrop

Engineers -----

Shift Supervisor - (2723) - A. I. Moore

Area Supervisor - (Personnel Meters), Acting - F. G. Tabb, Senior Supvr.

Shift Supervisors - (Pencils) - J. C. Ledbetter - H. W. Hope

Engineer J. L. Gabriel

Senior Supervisor - (Badges) H. C. Money

Shift Supervisors - K. F. Baldrige - C. L. Wheadon

Chief Supervisor - (Development) - C. C. Gamertsfelder

Ass't. Chief Supervisor - (Methods) - J. W. Healy

Senior Supervisor - P. L. Eisenacher

Engineers - K. E. Herde W. Singlevich -----

Shift Supervisor - Bio-Assay Lab. - J. R. Hobaugh

Senior Supervisor - (Site Survey) - L. D. Turner

Engineers - H. J. Paas

Area Supervisor - (Instruments) - -----

Engineers - F. L. Vencill H. G. Ruppert -----

Engineer - (Calibrations) - R. J. Gandy

Ass't. Chief Supervisor - (Radiobiology) - -----

Senior Supervisor - (Fish Laboratory) - R. F. Foster

ACCOUNTING DEPARTMENT

Works Accountant - F. E. Baker

Assistant Works Accountant - K. L. Robertson

Chief Clerk - Accounting - W. S. Koe, Jr.

Assistant Chief Clerk - Accounting - R. H. Hopkins

Supervisor of Accounting - (Accounts Payable) - J. A. Larkin

Supervisor of Accounting - (Accounts Receivable) - G. A. Gilson

Supervisor of Accounting - (General Accounting) - R. G. Grimm

Supervisor of Accounting - (Property) - R. L. Warburton

Supervisor of Accounting - (Audits) - L. F. Murray

Assistant Supervisor of Accounting (Special Assignment) - J. E. Mattingly

Supervisor of Accounting - (Time Office) - I. D. Behymer

Supervisor of Accounting - (Time Office) - P. H. Bird

Supervisor of Accounting - (Payroll Accounting) - J. R. Hills

Supervisor of Accounting - (Payroll Records) - W. Sale

Supervisor of Accounting - (Addressograph) - D. J. Brimhall

Supervisor of Accounting - (Paymaster) - T. E. Sparks

Supervisor of Accounting - (Salary & Banking) - R. S. Quarles

Assistant Supervisor of Accounting - (Salary & Banking) - B. O. Wickman

Assistant Works Accountant - R. W. Carriger

Chief Clerk - Operations - C. E. Poehlein

Supervisor of Stores - C. J. Sheeran

Assistant Supervisor of Stores - T. L. Lindgren

Supervisor of Accounting - (Receiving) - H. L. Morgan

Supervisor of Accounting - (Stores Accounting) - C. V. Webster

Supervisor of Accounting - (Disbursing) - C. G. Nielson

Supervisor of Accounting (Inventory Control) - F. M. Engle

Supervisor of Accounting - (Spare Parts) - C. W. Clements

Supervisor of Accounting - (Shipping) - R. Ryals

Supervisor of Accounting - (Salvage) - H. O. Monson

Supervisor of Accounting - B. R. Hennigar

Supervisor of Accounting - T. G. Stanfield

Supervisor of Accounting - (100 Areas) - R. E. Anderson

Supervisor of Accounting - (200 Areas) - R. B. Keepe

Supervisor of Accounting - (300 Areas) - J. Christenson

Supervisor of Accounting - (Transportation) - H. F. Scott

Supervisor of Accounting - (Medical) - A. J. McGinnes, Jr.

Supervisor of Accounting - (Printing) - W. A. Hulteman

Assistant Supervisor of Accounting - (Cost) - A. C. Beltzner

Chief Clerk - Operations - W. A. Jeffrey

Assistant Supervisor of Purchases - W. A. Bearden

Supervisor of Accounting - (Purchasing Clerical) - C. C. Hardige

Buyer - C. C. Hill

Buyer - J. W. O'Rourke

Buyer - R. V. Lawson, Jr.

Senior Clerk - C. L. Anderson

Senior Clerk - G. B. Krausher

Senior Clerk (Office Methods) - E. H. Webber

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and Pile	Appx. Exp. Time	Date Shipped	Remarks
1	Np ²³⁷	18 Sept. 1945	30 Oct. 1945	20 Jan. 1946	3678-B	68 Days	29 Jan. 1946	1 mg. sample; completed.
2	Thorium	9 Oct. 1945	30 Oct. 1945	15 Nov. 1945	2786-B	15 Days	15 Nov. 1945	1 slug; completed.
3	Thorium	17 Jan. 1946	26 Mar. 1946	11 June 1946	1474-D	67 Days	6 Sept. 1946	33 slugs; completed.
3-1	Thorium	17 June 1946	24 July 1946	2 Oct. 1946	2082-F	69 Days	17 Dec. 1946	43 slugs; completed.
B-13	3-2 Thorium	15 Dec. 1946	----	----	----	60-80 Days	----	21 slugs; 60 days cooling
	4 "C" Slugs	----	22 Feb. 1946	11 Dec. 1946	2382-B	680 MWD/CT	22 Mar. 1946	8 slugs; completed.
	5 Np ²³⁷	----	----	----	----	----	15 Mar. 1946	Completed; concentrate shipped from 200 Area.
	50 Np ²³⁷	----	----	----	----	----	8 July 1946	Completed; concentrate shipped from 200 Area.
50	Np ²³⁷	----	----	----	----	----	18 July 1946	Completed; concentrate shipped from 200 Area.
6	U- ²³³	11 Feb. 1946	2 April 1946	----	3282-F	1 year	----	5 mg. sample; 1 month cooling.
7	Np ²³⁷	11 Feb. 1946	2 May 1946	25 Sept. 1946	1566-F	145 Days	11 Oct. 1946	5 mg. sample; completed.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Appx. Exp. Time	Date Shipped	Remarks
8	U ²³⁸	11 Feb. 1946	2 April 1946	18 April 1946	3378-F	16 Days	2 May 1946	10 g. samples; completed.
9-1	Be Oxide & Be Oxide + U Oxide	---	30 April 1946	28 May 1946	3574-D	28 Days	12 June 1946	8 slugs; completed.
9-2	Be Oxide & Be Oxide + U Oxide	---	4 June 1946	6 Aug. 1946	3574-D	63 Days	6 Sept. 1946	8 slugs; completed.
9-3	Be Oxide & Be Oxide + U Oxide	---	2 May 1946	25 Sept. 1946	1566-F	145 Days	11 Oct. 1946	8 slugs; completed.
10-A	Samarium Oxide	6 April 1946	2 May 1946	25 Sept. 1946	1566-F	145 Days	11 Oct. 1946	1 slug; completed.
10-B	Gadolinium Oxide	---	---	---	---	---	---	Postponed
11	Radium	26 Sept. 1946	2 Oct. 1946	---	"B" Test Hole-F File	120 Days	---	1 sample; 30 days cooling.
12-A	U ²³⁵	---	---	---	---	---	---	Postponed
12-B	Pu ²³⁹	6 April 1946	18 April 1946	---	3378-F	400 Days	---	1 slug; 1 month cooling.

* Six of these slugs were received on 6 April 1946; 17 on 19 April 1946; 1 on 2 May 1946; and 1, replacing a leaking slug, on 23 May 1946.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Apprx. Exp. Time	Date Shipped	Remarks
13-1	Beryllium Nitride	1 July 1946	24 July 1946	2 Oct. 1946	1474-F	60 Days	11 Oct. 1946	35 slugs; shipped.
			24 July 1946	----	3274-F	Indefinite	----	34 slugs; 2 weeks cooling.
13-2	Beryllium Nitride	8 July 1946	6 Aug. 1946	----	3169-D	Indefinite	----	30 slugs;
			7 Aug. 1946	----	2666-F	Indefinite	----	30 slugs; 2-3 weeks cooling.
13-3	Beryllium Nitride	4 Oct. 1946	7 Oct.	----	----	Indefinite	----	250 slugs
13-4	Beryllium Nitride	4 Oct. 1946	----	----	----	Indefinite	----	35 slugs
14-1	Alloys of Aluminum & Uranium	14 Dec. 1946	----	----	----	90 Days	----	1 slug
14-2	Alloys of Aluminum & Uranium	14 Dec. 1946	----	----	----	180 days	----	1 slug
14-3	Alloys of Aluminum & Uranium	14 Dec. 1946	----	----	----	1 year	----	1 slug
15	Lithium Fluoride	5 March 1946	2 April 1946	18 April 1946	3378-F	16 Days	2 May 1946	3 slugs; completed.
15-1	Lithium Fluoride	20 May 1946	25 June 1946	20 Aug. 1946	1579-D	56 Days	6 Sept. 1946	17 slugs; completed.

Sheet 3 of 10 Sheets

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STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and Pile	Appx. Exp. Time	Date Shipped	Remarks
15-2	Lithium Fluoride	24 June 1946	16 July 1946	17 Sept. 1946	2682-D	62 Days	11 Oct. 1946	36 slugs; completed
15-3	Lithium Fluoride	13 July 1946	6 Aug. 1946	8 Oct. 1946	2082-D	63 Days	15 Nov. 1946	24 slugs;
			7 Aug. 1946	2 Oct. 1946	1589-F	56 Days	11 Oct. 1946	24 slugs; completed
15-4	Lithium Fluoride	15 Aug. 1946	3 Sept. 1946	5 Nov. 1946	1579-D	63 Days	15 Nov. 1946	2 slugs;
							19 Nov. 1946	21 slugs;
			3 Sept. 1946	5 Nov. 1946	3274-D	63 Days	15 Nov. 1946	12 slugs;
			4 Sept. 1946	5 Nov. 1946	2374-F	62 Days	15 Nov. 1946	36 slugs;
							19 Nov. 1946	14 slugs;
			17 Sept. 1946	26 Nov. 1946	2682-D	69 Days	17 Dec. 1946	14 slugs; completed.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Appx. Exp. Time	Date Shipped	Remarks
15-5	Lithium Fluoride	20 Aug. 1946	17 Sept. 1946	26 Nov. 1946	2682-D	69 Days	17 Dec. 1946	22 slugs;
			1 Oct. 1946	26 Nov. 1946	2374-D	55 Days	17 Dec. 1946	34 slugs;
			1 Oct. 1946	26 Nov. 1946	2686-D	55 Days	17 Dec. 1946	31 slugs;
			2 Oct. 1946	27 Nov. 1946	1474-F	55 Days	17 Dec. 1946	19 slugs;
			2 Oct. 1946	27 Nov. 1946	1569-F	55 Days	17 Dec. 1946	35 slugs;
			2 Oct. 1946	27 Nov. 1946	2082-F	55 Days	17 Dec. 1946	35 slugs;
			2 Oct. 1946	27 Nov. 1946	2682-F	55 Days	17 Dec. 1946	21 slugs; completed.
15-6	Lithium Fluoride	26 Aug. 1946	2 Oct. 1946	27 Nov. 1946	2682-F	55 Days	17 Dec. 1946	14 slugs; completed.
			8 Oct. 1946	17 Dec. 1946	2082-D	69 Days	----	24 slugs;*.
			15 Oct. 1946	17 Dec. 1946	1569-D	62 Days	----	26 slugs;*.
			16 Oct. 1946	4 Dec. 1946	1579-F	48 Days	17 Dec. 1946	36 slugs; completed.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Appx. Exp. Time	Date Shipped	Remarks
15-7	Lithium Fluoride	16 Sept. 1946	15 Oct. 1946	17 Dec. 1946	3179-D	62 Days	----	32 slugs; *.
			16 Oct. 1946	4 Dec. 1946	1579-F	48 Days	17 Dec. 1946	2 slugs; completed
			16 Oct. 1946	26 Dec. 1946	3179-F	70 Days	----	35 slugs; *.
			24 Oct. 1946	17 Dec. 1946	1474-D	53 Days	----	18 slugs; *.
			5 Nov. 1946	----	3169-F	Indefinite	----	13 slugs; *.
15-8	Lithium Fluoride	23 Sept. 1946	24 Oct. 1946	17 Dec. 1946	2086-D	53 Days	----	27 slugs; *.
			5 Nov. 1946	17 Dec. 1946	1579-D	42 Days	----	23 slugs; *.
			5 Nov. 1946	----	2374-F	Indefinite	----	39 slugs; *.
			5 Nov. 1946	----	3169-F	Indefinite	----	10 slugs; *.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Appx. Exp. Time	Date Shipped	Remarks
15-9	Lithium Fluoride	4 Oct. 1946	5 Nov. 1946	17 Dec. 1946	3274-D	42 Days	----	12 slugs; *.
			26 Nov. 1946	----	2374-D	Indefinite	----	21 slugs; *.
			26 Nov. 1946	----	2666-D	Indefinite	----	31 slugs; *.
			26 Nov. 1946	----	2682-D	Indefinite	----	36 slugs; *.
			27 Nov. 1946	----	1474-F	Indefinite	----	19 slugs; *.
			27 Nov. 1946	----	1569-F	Indefinite	----	23 slugs; *.
			27 Nov. 1946	----	2082-F	Indefinite	----	25 slugs; *.
			27 Nov. 1946	----	2682-F	Indefinite	----	25 slugs; *.
15-10	Lithium Fluoride	11 Nov. 1946	4 Dec. 1946	----	1579-F	Indefinite	----	6 slugs; *.
			26 Nov. 1946	----	2374-D	Indefinite	----	13 slugs; *.
			4 Dec. 1946	----	1579-F	Indefinite	----	19 slugs; *.

STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Apprx. Exp. Time	Date Shipped	Remarks
15-10	Lithium Fluoride	11 Nov. 1946	17 Dec. 1946	-----	1474-D	Indefinite	----	27 slugs; *.
			17 Dec. 1946	----	1569-D	Indefinite	----	26 slugs; *.
			17 Dec. 1946	----	1579-D	Indefinite	----	23 slugs; *.
			17 Dec. 1946	----	2066-D	Indefinite	----	27 slugs; *.
			17 Dec. 1946	----	2082-D	Indefinite	----	24 slugs; *.
			17 Dec. 1946	----	3179-D	Indefinite	----	32 slugs; *.
			17 Dec. 1946	----	3274-D	Indefinite	----	27 slugs; *.
			26 Dec. 1946	----	2066-F	Indefinite	----	23 slugs; *.
			26 Dec. 1946	----	3179-F	Indefinite	----	26 slugs; *.
			----	----	----	Indefinite	----	132 slugs; to be charged in Jan. 1947

* Cooling time will depend upon date transportation is available after discharge.

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STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and File	Appx. Exp. Time	Date Shipped	Remarks
16-1	95 241	6 April 1946	2 May 1946	25 Sept. 1946	1565-F	146 Days	25 Sept. 1946	1 slug; completed.
16-2	95 241	6 April 1946	18 April 1946	----	3378-F	400 Days	----	1 slug; 24 hours cooling.
17	Graphite	----	17 Dec. 1944	12 Mar. 1946	"D" Test Hole-D File	----	22 Mar. 1946	16 pound sample; completed.
17-1	Graphite	----	17 Dec. 1944	12 Mar. 1946	"D" Test Hole-D File	----	12 June 1946	16 pound sample;
			----	----	----	----	12 June 1946	Assorted test hole pieces; completed.
17-2	Graphite	----	25 Feb. 1945	20 June 1946	"D" Test Hole-F File	----	8 July 1946	16 pound sample; completed.
18	Lead-Cadmium	----	4 June 1945	18 Jan. 1946	2669-D	487 MWD/CT	2 May 1946	1 poison slug; completed.
18-1	Lead-Cadmium	----	31 Dec. 1945	25 June 1946	1579-D	176 Days	6 Sept. 1946	Approx. Duplicate of Request 18; completed.
19	Mercury	12 June 1946	2 July 1946	15 Oct. 1946	1666-D	105 Days	19 Nov. 1946	1 slug; completed.
20	Thallium Nitrate	13 July 1946	7 Aug. 1946	4 Dec. 1946	2271-F	119 Days	17 Dec. 1946	1 slug; completed.

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STATUS OF SPECIAL REQUEST SAMPLES AS OF 31 DECEMBER 1946

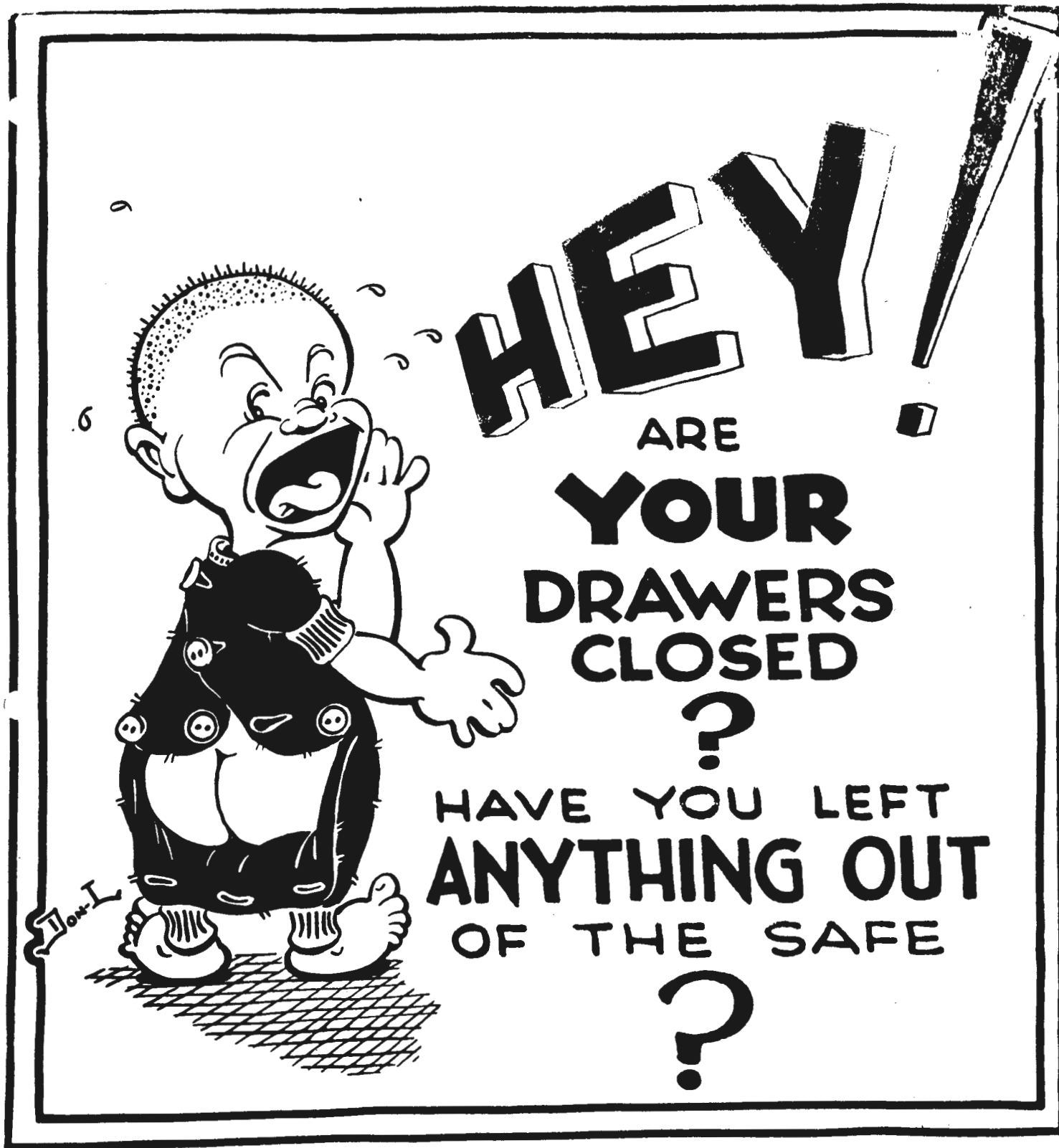
Req. No.	Material	Date Received	Date Charged	Date Discharged	Channel and Pile	Appx. Exp. Time	Date Shipped	Remarks
21, 22, 23	----	----	----	----	----	----	----	No details.
24	Fabrication of I-Slugs		----	----	----	----	Final shipment on Nov. 2 1946	33,629 slugs; completed.
25-1	Beryllium Nitride	29 May 1946	2 July 1946	6 Aug. 1946	2878-D	35 Days	20 Aug. 1946	1 slug; completed.
25-2	Beryllium Nitride	29 May 1946	4 June 1946	6 Aug. 1946	3574-D	63 Days	20 Aug. 1946	1 slug; completed.
25-3	Beryllium Nitride	29 May 1946	25 June 1946	8 Oct. 1946	2869-D	104 Days	12 Nov. 1946	1 slug; completed.
26	Antimony	1 Oct. 1946	4 Dec. 1946	----	"B" Test Hole-F Pile	60 Days	----	1 slug;
27	Calcium Oxide	----	----	----	----	100-300 Days	----	2 slugs; 1-2 weeks cooling.
28	Iron	----	----	----	----	100 Days	----	2 slugs; 1-2 weeks cooling.
29	Phosphorus	----	----	----	----	30 Days	----	2 slugs; 24-48 hours cooling.

Example of Small Poster



Example of Small Poster





Example of permanent type reminder



700 AREA SIGN SHOP

Example of Large Poster

UNITED STATES OF AMERICA
PERSONNEL SECURITY QUESTIONNAIRE

READ INSTRUCTIONS ON SEPARATE SHEET BEFORE ANSWERING

BUDGET BUREAU NO. 49-R036
APPROVAL EXPIRES 31 DEC 1946

TYPE OR PRINT ALL ANSWERS

1. LAST NAME — FIRST NAME — MIDDLE NAME				8. DESCRIPTION ☐ MALE ☐ FEMALE				
2. OTHER NAMES (include maiden name, if married woman)				RACE	HEIGHT	WEIGHT	COLOR EYES	COLOR HAIR
3. ADDRESSES (Apt. or R. D. F. No., Street, City, State, and dates there)				9. MARITAL STATUS				10. BIRTH DATE
4. NORMAL HOME ADDRESS OR PRINCIPAL RESIDENCE FOR PAST 10 YEARS				11. BIRTHPLACE (city, county, state or country)				
5. SCHOOL LAST ATTENDED (address and dates)				12. CITIZENSHIP				
6. MILITARY SERVICE				IF NATURALIZED: DATE				
COUNTRY				CERTIFICATE NUMBER				
FROM TO				PLACE				
7. FOREIGN COUNTRIES VISITED (since 1930)				IF ALIEN: PORT OF ENTRY				
COUNTRY	DATE LEFT U. S. A.	DATE RET'D U. S. A.	PURPOSE	DATE				
13. DRAFT CLASSIFICATION				ORDER NO.				
14. SOCIAL SECURITY NO.				BOARD NO. AND ADDRESS				

15. RELATIVES (parents, spouse, children, brothers and sisters, living or dead)				
RELATION	NAME IN FULL	ADDRESS	COUNTRY OF BIRTH	PRESENT CITIZENSHIP

16. ORGANIZATION MEMBERSHIP
NAME, ADDRESS, TYPE, OFFICE HELD AND INCLUSIVE DATES

17. EMPLOYMENT (include periods of unemployment and employment from 1935 to date)					
POSITION	NAME OF EMPLOYER	ADDRESS	PSQ	FROM	TO

18. REFERENCES (name three citizens, not relatives or employers, who are well acquainted with you)		
NAME	ADDRESS	YRS. KNOWN

TO BE FILLED OUT BY AGENCY OR FIRM EMPLOYING		DATE
19. AGENCY OR FIRM EMPLOYING	ADDRESS	SERVICE COMMAND NUMBER
20. DESCRIPTION OF EMPLOYEE'S DUTIES		
21. SIGNATURE AND TITLE OF APPROVING AUTHORITY	22. USUAL SIGNATURE OR MARK OF EMPLOYEE	
REQUESTER COMPLETE BLOCK ON BACK		

ADDITIONAL SPACE FOR ANSWERS

ADDRESSES (CONTINUED): (APT. OR R. F. D. NO., STREET, CITY, STATE, AND DATES THERE)

FOREIGN COUNTRIES VISITED (CONTINUED): (SINCE 1930)

COUNTRY	LEFT U. S. A.	RETURNED U. S. A.	PURPOSE

RELATIVES (CONTINUED): (PARENTS, SPOUSE, CHILDREN, BROTHERS, SISTERS, LIVING OR DEAD)

RELATION	NAME IN FULL	ADDRESS	COUNTRY WHERE BORN	PRESENT CITIZENSHIP

EMPLOYMENT (CONTINUED): (ACCOUNT FOR ALL TIME FROM 1935 TO DATE, INCLUDING PERIODS OF UNEMPLOYMENT)

NAME OF EMPLOYER	ADDRESS	POSITION	PSQ	FROM	TO

REMARKS

MAIL REPORT TO—

REPORT SHOULD BE MAILED

☐ UNCLASSIFIED

☐ RESTRICTED

☐ CONFIDENTIAL

<u>No.</u>	<u>Description</u>	<u>Location</u>
11	Plutonium Production Study Submitted by the Contractor on 23 December 1944	See Top Secret Appendix
12	Plutonium Production Study Submitted by the Contractor on 21 April 1945	See Top Secret Appendix
13	Lanham Act (Public 849, 76th Congress, 54 Stat. 1125, USC Title 42, Sec. 1521	U.S. Government Printing Office, Washington, D.C.
14	Bids of Prospective Commercial Operators	Area Engineer H. Mail and Record 600.1 Facilities
15	Method of Selecting Commercial Operators	District Office and Area Engineer Mail and Record 600.1 Facilities
16	Hanford Technical Manual	See Note
17	Technical Progress Report	District Office and Area Engineer Classified Files 600.914

Note

Copies of the Hanford Technical Manual are on file at the following offices:

Office of District Engineer, Oak Ridge, Tennessee
 Office of Area Engineer, Richland, Washington
 Office of du Pont Central Files, Richland, Washington
 Office of Area Engineer, Chicago, Illinois
 Office of Area Engineer, Santa Fe, New Mexico
 Office of du Pont Files, Wilmington, Delaware

MANHATTAN DISTRICT HISTORY

BOOK IV - XIO PROJECT

VOLUME 6 - OPERATION

APPENDIX C

REFERENCES

<u>No.</u>	<u>Description</u>	<u>Location</u>
1	Bismuth Phosphate Process	H.E.W. Technical Manual, Sec.C. "
2	Slug Dissolving	H.E.W. Technical Manual, Sec.C. "
3	Extraction	H.E.W. Technical Manual, Sec.C. "
4	Decontamination	H.E.W. Technical Manual, Sec.C. "
5	Concentration	H.E.W. Technical Manual, Sec.C. "
6	Isolation	H.E.W. Technical Manual, Sec.C. "
7	Operating Procedures	District Office and Area Engineer H.E.W. Classification Files .003
8	Technical and Operating Department Production Tests	File Production du Pont H.E.W. Central Files
9	Operating Standards	District Office and Area Engineer H.E.W. Classification Files .003
10	Plutonium Production Study Submitted by the Office of the Area Engineer on 11 December 1944	See Top Secret Appendix

MANHATTAN DISTRICT HISTORY

BOOK IV - XIO PROJECT

VOLUME 6 - OPERATION

APPENDIX D

SUPPLEMENTARY INFORMATION

<u>No.</u>	<u>Description</u>
1	Xenon Poisoning
2	The Wigner and Swilard Effects
3	G. E. plan for reactivation of 100-B Pile Area

XENON POISONING

DEFINITION OF PILE POISONS

When a chain-reacting pile is working normally, the neutron birth-rate is exactly equal to the neutron death-rate. If the equilibrium is destroyed in favor of the death-rate, the pile will die. This unbalance can be accomplished either by the introduction or the creation within the pile of substances possessing the ability to absorb neutrons but not to reproduce them--at least not in compensating amounts. In varying degrees, many elements possess this capacity--a capacity which is measured by the extent of the effective cross section of the nucleus of the capturing atom. Such substances are known as poisons.

START-UP STUDIES OF PILE POISONS

Prior to the beginning of the operation of the Hanford Piles, it was well known that many fission products are formed as a result of pile action, accumulating in the uranium slugs. An evaluation of the probable effects of these products on pile reactivity was essential in order to determine what measures should be taken to counteract adverse influences if any were predicted. With this object in mind, rather comprehensive studies had been made before the start of pile operations. These studies indicated the following:

1. Poison effects by short-life fission products might be excluded from consideration because their absorption cross sections had to be far greater than the largest known values.
2. The formation of samarium 149 could produce poisoning of consequence, partly because of its large absorption cross section

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of 58,000 barns (1 barn = 1×10^{-24} sq. cm.²), but its adverse influence on reactivity would eventually be overly compensated by reactivity promotional factors.

3. Poison effects would develop over a considerable period of time, but would cause no serious complications.

The foregoing review is a very brief summary of the state of the knowledge on the subject of poisons prior to the start-up of the Hanford Piles.

DISCOVERY OF XENON POISONING

The 100-B Pile had been loaded with 903 tubes of metal slugs, providing an excess reactivity of 34.2 inhours (inverse-hours). At 2248 of 26 September 1944, this unit became reactive and the manufacture of plutonium on a large scale may be said to have begun. At 0200 of the following morning, 27 September, the power level was raised to nine megawatts. Very shortly thereafter, the first indications of falling reactivity appeared. This surprising, puzzling, and dismaying phenomenon continued uninterruptedly until 1830 when the Pile died, even though at 1600 the power level had been reduced from nine megawatts to 0.4 megawatts.

SUGGESTED EXPLANATIONS

Diverse explanations of the cause or causes were advanced and tested when possible. Water, it was thought, had entered the Pile, conveyed either by the circulating of moist helium or through tube leakages. But subsequent helium analyses and tests with reduced water pressures showed this explanation to be fallacious. The deposition of chromium on the slug jackets, and the leakage of boron solutions into the thimbles of the

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safety rods from the third safety device were suggested as possibilities. These explanations, like several others, had to be discarded because no evidence was found to support them.

REACTIVATION OF THE 100-B PILE

It became possible to reactivate the Pile at 0400 on 28 September 1944 with an excess reactivity of 4.3 inhours at a power level of 0.2 megawatts. While running at this level, observations showed the reactivity to be steadily increasing, attaining 17.7 inhours at 1600. At 2000, the excess reactivity had become 21.5 inhours, and it was decided to try operating the Pile again at 9 megawatts. But, just as before, the reactivity soon began to fall; and at 0100 of 29 September, the power level was dropped to 0.2 megawatts. The minimum reactivity of 15.4 was reached at 0400, and immediately the upward trend was observed again.

REACTIVITY-TIME CURVE SHOWS XENON AS POISONING AGENT

A careful study of the reactivity-time curves, obtained from more detailed information of the kind just given, led to the explanation of the baffling phenomenon. The deductions from these curves indicated that a radioactive poison with a half life of less than 11 hours, having a parent with a half life of several hours, was responsible. The aduced facts pointed to a fission chain with a mass number of 135; namely, Tellurium (2 min.) to Iodine (6.6 hours) to Xenon (9.4 hours) to Cesium (28 years) to Barium (stable). From the accumulated evidence, it was proven that xenon-135 of this chain was the causative agent. Rough preliminary estimates indicated that xenon had a cross section of 7,000,000 barns, a value 70 times bigger than the largest cross section previously known, and that it occurred in an amount approximately equal to 2.6 per cent of

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the total fission products. These values are respectively 2.34×10^6 barns and 6.8 per cent on the basis of better data, obtained from Pile runs using 1500 tubes at 90 megawatt power level.

THE CLINTON PILE CLUE

A clue that might have led to the early discovery of xenon poison was afforded by an observation made of the Clinton Pile. Measurements were made of the loss of "k," the reproduction factor, as a function of temperature in the following way: (1) when the Pile was uniformly heated; (2) when the Pile was flashed to a power level sufficient to produce an appreciable rise in metal temperature without significant warming of the graphite; and (3) when the Pile was put in steady operation with known central metal temperature. The third effect could be calculated from the first and second effect. If no other effect were present, the difference between the measured value of the third effect and the calculated value should have been zero. But, when these computations were made, a small difference was found and, reasonably enough, attributed to experimental error. Actually, in light of later Hanford observations, it became the leading clue to the discovery of xenon-135 poisoning.

SUMMARY AND CONCLUSIONS OF SUBSEQUENT STUDIES AND OBSERVATIONS

The 100-B Pile was run with loadings of 1004, 1128, 1300, 1500, and 2004 tubes with excess reactivities of 120, 204, 290, 370, and 560 in-hours respectively. Experience, acquired with such Pile operations, and the results of simultaneously conducted studies yielded much information of value with regard to Pile poisons.

- a. Beneficial Effects. - From a beneficial standpoint, it was learned that the poison concentration was highest at the center of

the unit, thus helping to increase the power output for a given temperature rise by flattening the neutron density. Again, the xenon decay afforded a convenient method of calibrating control rods.

b. Adverse Effects. - Unfortunately, some of the effects produced by the poisoning were not so good. After a short shutdown, the amount of poison is increased. A prolonged shutdown can cause a temporary increase of poison large enough to shut the Pile down for ten hours or more unless special and rather awkward measures are taken to reactivate it. When the Pile is started up, after a protracted shutdown, a number of rods must be left in to compensate for the xenon decay. These rods distort the distribution of neutron density; and the maintenance of good temperature distribution, therefore, is difficult until the poison has grown to its equilibrium value. If the shutdown lasts roughly over twenty-five hours, the xenon decays to such an extent that the control rods are no longer capable of absorbing all the excess reactivity. It then becomes necessary to replace certain columns of heavy metal with columns of lead-cadmium ("poison") slugs. These poison columns are removed after the xenon poison is restored by power operation.

c. Present Status. - To date, the major problems of xenon poisoning are under satisfactory control. The existence of other short-lived poisons are definitely out of consideration. The Piles are all loaded similarly so that a simple poison formula which allows for direct formation and for flattening by poison columns is applicable to all three units, and predictions of xenon behavior are

handled in a routine manner. Definite progress is being made on the devising of start-up procedures which will minimize transitory "hot spots" by establishing a suitable order of shim rod withdrawals.

THE WIGNER AND SZILARD EFFECTS

INTRODUCTION

The primary purpose of the graphite in the Hanford Piles is to reduce the velocity of fast neutrons to ranges which are effective in the manufacture of plutonium. It is because of this function that the graphite is called a moderator of neutron velocities. The fast neutron collides with the nucleus of the carbon atoms and rebounds with less energy and momentum.

Neutrons, at the moment of birth, during the instant of uranic fission, have velocities roughly averaging 12,000 miles per second or energies approximately equal to two million electron-volts. In order to be effective in the production of plutonium, these energies must be reduced to, roughly, the range of 0.025 to 10 electron-volts or to velocities of 1 mile per second to 400 miles per second. On the average, each collision with a carbon nucleus reduces the energy of a fast neutron by about 14 per cent. Approximately then, each fast neutron must make 100 collisions before its energy or velocity is within the required limits.

Virgin or natural graphite is crystalline in structure in that its atoms are located in a definite geometrical position. These are the positions of maximum stability of graphite atoms with which the normal physical properties of the graphite are associated. The graphite atoms can be displaced by repeated collisions with neutrons into new, less stable positions; and the original geometric pattern is distorted. As a result, the normal physical properties are modified, as demonstrated by actual measurements. In their new positions, the graphite atoms possess

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more energy, the additional amount being acquired at the expense of the colliding neutrons. This new lattice structure will remain unaltered unless disturbed by some physical action. The action may cause the atom to spring back to its original position, thereby restoring the normal lattice and releasing energy in the form of heat as indicated by a temperature rise of the graphite. A sudden return of a very large number of such atoms might possibly result in an explosion of great violence.

WIGNER EFFECT, OR THE WIGNER DISEASE

Studies made before the start-up of the Hanford Piles showed that changes in the physical properties of graphite, such as thermal conductivity and mechanical strength, could be expected to follow the incessant and intense neutronic bombardment of the graphite. These changes are described as Wigner Effects or the Wigner Disease.

SEILARD EFFECT

As a further consequence of this bombardment, the distortion of crystalline lattice into new shapes would result in a storage of energy which subsequently might be triggered and released explosively. The latter implication was of the utmost concern. The phenomenon is known as the Seilard Effect.

PRELIMINARY MEASURES AND DISCUSSION

Early in the summer of 1944, results of experimental studies conducted at the Metallurgical Laboratory and the Clinton Laboratories indicated that large changes in mechanical strength and thermal conductivity of the graphite could be expected in a relatively short period of full-power operation of the Hanford Piles. According to these studies, irradiation of the graphite equal roughly to one day at 250 megawatts

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(Hanford level) produced 30 per cent decrease in thermal conductivity and 30 per cent increase in breaking strength. Less in thermal conductivity meant that the Piles might have to be operated at lower levels unless curative measures were taken; while increase in breaking strength implied the possibility of graphite embrittlement with subsequent crumbling.

For the purpose of coping with the Wigner Effect, preliminary procedures for cooperation between the Metallurgical Laboratory and the Contractor were set up. A group of men from the Technical Division of the Contractor were to follow the theoretical and long-range implications of the Hanford Pile operations, and to make certain that full use of the knowledge and facilities of the Metallurgical Laboratory was made. The 100-Area Technical Section was to assist the Production Department in carrying out the prescribed experimental program. A group of observers from the Metallurgical Laboratory were sent out to keep their Director informed of the progress and to advise him of the need of changes in emphasis or objectives of the Metallurgical Laboratory Program arising from Hanford events.

For a time the Wigner Effect posed the principal graphite problems. But on 28 August 1944, the first intimations of another effect, known as the Swirlard Effect, intimately associated with the Wigner Effect, were received. This effect is concerned with the storage and sudden release of the energy acquired by carbon atoms as a result of the positional displacements produced by neutron bombardment. At that time, no provision had been made for either studying or coping with the problems of the Swirlard Effect since it had not been anticipated earlier. As a

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result of preliminary studies, several methods of curing the Szilard Effect were suggested: (1) dry-chain reaction; (2) circulation of hot helium; and (3) the replacement of helium with carbon dioxide. Although these measures were directly aimed at curing the Szilard Effect, they would in a large measure contribute towards the removal of the Wigner Effect.

These curing measures were based on the principle of annealing the graphite. It was expected that an increase in the temperature would result in the return of the carbon atoms to their positions of maximum stability, thereby restoring the original condition of the graphite.

The Metallurgical Laboratory prepared recommendations on a program for graphite testing with special reference to the Szilard Effect. The testing program was considered adequate, especially with regard to its provisions for forecasting possible trouble as a result of sudden release of stored energy. The program was devised and called for: (1) the placing, in a special testhole in the 100-B Pile, of pre-irradiated samples of graphite which had been received from the Clinton Laboratories; (2) the introduction of samples of special capsules of graphite between the active metal slugs in the central columns of the 100-B Pile. Eight columns were charged with twenty-three capsules, prior to the start-up on 27 September 1944.

The capsule and testhole samples were made from a bar of graphite exposed in the Clinton Pile for an equivalent of $3\frac{1}{2}$ days of Hanford operation at 250 megawatts. The use of pre-irradiated samples permitted a prediction of future performance of graphite in the Pile. In order to make sure that in case of loss of the 100-B Pile samples, the program

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would not be retarded, nine capsule samples were charged in a total of three channels of the 100-D Pile on 5 December 1944. No such samples were put in the 100-F Pile.

FINDINGS SINCE START-UP

The first Hanford graphite test results were summarized by the Technical Division for the benefit of the Metallurgical Laboratories in the middle of November 1944. At that time there was some evidence that the stored energy would reach a steady value. On 6 and 7 January 1945, Dr. Seitz, during his visit at Hanford, stated that it was improbable that there would be any danger from energy releasable below 500° Centigrade. In his final report, however, he indicated that there was danger from blocking off the water flow from four adjacent tubes when the power was down and the temperature was somewhat higher than 1250° Centigrade.

In February 1945, it was found that heating a sample at 150° Centigrade practically eliminated all release of energy at temperatures below 200° Centigrade. This margin of annealing above the temperature of exposure has since proved very important in insuring the safety of the unit. About that time, the evidence was very strong that the changes in the physical properties of the graphite were approaching limiting values; and that the rate of release of energy was proportional to the amount of stored energy; and further, the rate of release increased rapidly with temperature.

The energy stored in capsule samples located in selected Pile channels, as a result of a given exposure (megawatt days per central ton), is 1.3 times as great as the energy stored in a testhole sample. This fact

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would permit a prediction in the change of the physical properties of graphite 30 per cent ahead of time. In February - March 1945, it appeared that the changes in thermal conductivity of graphite samples from the 100-B testhole were consistent with the changes in graphite power coefficient and graphite period that were observed in the operation of the Piles.

Arrangements were made with Dr. Rossini of the National Bureau of Standards to determine the heat of combustion of the exposed samples of graphite. This procedure would give absolute measurement of stored energy. The first values obtained on samples exposed 167 megawatt-days per central ton of metal showed 108 calories per gram more energy of combustion than an unexposed blank. A second determination on a sample that had been annealed at 1000° Centigrade showed 28 calories per gram more than the blank. The amount of energy stored below 550° Centigrade was also determined by Rossini, and the results were compared with those obtained with the Sykes differential method as employed at Hanford. The comparison showed that the Sykes method gave values half as large as the Rossini values. Close correlation was observed between X-ray measurements of graphite samples and these Rossini results which showed how annealing affects the stored energy.

An interim report on the Wigner and Seilard Effects was completed on 9 November 1945. It is a compendium of the results obtained, both experimentally and theoretically, relating to the solutions of the graphite problems.

According to the interim report, heavily irradiated samples of graphite experienced a sudden rise in temperature of 100° Centigrade

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within 10 seconds when the sample was raised to a critical temperature after removal from the Pile.

If a Pile temperature rise of 100° Centigrade is superimposed on 100° Centigrade of a sudden energy release, a jump of 200° Centigrade in temperature of the matrix of the Pile would occur. Under such operating conditions, the following consequences might follow:

1. The thimbles may reach a temperature of roughly 350° Centigrade, well below the melting point of aluminum (650° Centigrade).

2. The graphite may increase in dimensions by 0.5 inch which, it is believed, would not have serious consequences.

3. The quick liberation of energy in the graphite would put an extra load on the water. If the water were lost by boiling, the reactivity would increase by about two per cent. However, the graphite in its present irradiated condition is a much poorer conductor of heat, having a characteristic period for transfer of heat from graphite to water of about 40 minutes. The cooling water requires $1\frac{1}{2}$ seconds to traverse the active part of the Pile. If the power level is under control, it seems that the transfer of heat to the water would be too diffuse in point of time to cause serious damage.

4. The most serious effect of a temperature rise of 200° Centigrade would be a sudden jump in reactivity of roughly 140 inhours; for 100 inhours the power would become 2.7 times greater at the end of 15 seconds; for 200 inhours it would reach the same level in 3 seconds. The fear of the possible loss of water in such cases is then well-founded. This loss of water might thus be followed

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subsequently by a further and dangerous rise in power level.

As a practical and useful consequence of earlier studies on the graphite problems, conditions of Pile operations were defined, under which there was a small probability of the rapid release of stored energy. Based on these conditions, a procedure for Pile start-ups was adopted and put into effect. The latest results of the interim report, bearing on this procedure, show that the procedure as established is conservative.

According to this procedure, the graphite temperature may rise at any rate to 8° Centigrade above the immediately previous operating steady-state value. The steady-state temperature for this purpose is one that has been established for four days, or more, of Pile operation. The rate of rise beyond 8° Centigrade above the previous steady-state temperature shall not exceed 4° Centigrade per hour. A rise of 8° Centigrade corresponds to a power level increase of 20 megawatts when no distortion of the relative graphite temperatures results from adjustments of poison column or control rods. At 4° Centigrade per hour, rate of temperature increase corresponds to a uniform power level increase of 10 megawatts per hour. This limiting temperature rate is not exceeded when sudden rises of 5 megawatts are made 1 hour apart.

CONCLUSION

As of December 1946, the problems of the Wigner and Sillard Effects continue active. Additional experimental data have been obtained on the rate of release of stored energy; and refinements in the interpretation of stored energy data obtained by the Sykes method have brought these data into good agreement with the results of Rossini. A useful and versatile theory of energy spectrum. In the development of this theory, it

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has been demonstrated that annealing occurs not only as a result of ordinary thermal processes, but also as a result of neutronic bombardment. On the basis of the theory, reasonable assurance against any catastrophic release of stored energy has been provided by imposing limits on the rate at which the graphite temperature may be allowed to rise during a power change; and the practical application is the procedure mentioned previously.

October 10, 1946

PLAN I

RECOMMENDATIONS:

For a short period of time the area could operate with no additional help by receiving some assistance from D and F areas.

ELECTRICAL:

By neglecting some preventative maintenance work during the emergency period, sufficient manpower can be made available for coverage.

FIRE:

Full fire protection is now being provided for the 100-B Area. No additional manpower will be required.

H.I.I

Shift coverage can be obtained by having the shift men who now divide their time equally between D and F Areas to spend equal time in B, D, and F Areas. Sufficient day supervision will be available.

INSTRUMENTS:

By neglecting some preventative maintenance work during the emergency period sufficient manpower can be made available for coverage. An engineer who is now on special assignment will serve as a supervisor in this period.

MAINTENANCE:

By neglecting some preventative maintenance work during the emergency period sufficient manpower can be made available for coverage.

MEDICAL:

The Medical Department personnel works in all plant areas. By reducing the time spent in each of the areas, sufficient coverage for B Area can be obtained without hiring additional personnel.

"P":

For complete coverage in 100 B, D, and F it will be necessary to obtain five (5) operators. These men can be made immediately available from the 300 Area.

SHEET 1 OF 24.

7-5171
October 10, 1946

PLAN I

ACCOUNTING:

For a short period of time the area could operate with no additional help by receiving some assistance from D and F Areas.

ELECTRICAL:

By neglecting some preventative maintenance work during the emergency period, sufficient manpower can be made available for coverage.

FIRE:

Full fire protection is now being provided for the 100-B Area. No additional manpower will be required.

H.I.I

Shift coverage can be obtained by having the shift men who now divide their time equally between D and F Areas to spend equal time in B, D, and F Areas. Sufficient day supervision will be available.

INSTRUMENT:

By neglecting some preventative maintenance work during the emergency period sufficient manpower can be made available for coverage. An engineer who is now on special assignment will serve as a supervisor in this period.

MAINTENANCE:

By neglecting some preventative maintenance work during the emergency period sufficient manpower can be made available for coverage.

MEDICAL:

The Medical Department personnel works in all plant areas. By reducing the time spent in each of the areas, sufficient coverage for B Area can be obtained without hiring additional personnel.

"P"1

For complete coverage in 100 B, D, and F it will be necessary to obtain five (5) operators. These men can be made immediately available from the 300 Area.

GENERAL ELECTRIC

- 2 -

overtime is estimated to be approximately \$245,000 in addition to Plan I and approximately \$200,000 in addition to Plan II.

It should be pointed out that the requirements of Plan I can only be met by reducing the operating personnel to an absolute minimum in all pile areas, the one exception being the Fire Department which is already located in the B Area. Furthermore, a large number of experienced supervisors have been lost due to the change of Contractors and consequently some risk would be entailed in starting the Area under Plan I. It is therefore recommended that this plan not be put into effect except in case of an extreme emergency.

W. H. MILTON, JR.
ADMINISTRATOR
W. H. Milton, Jr.

CNG:rd

Attachment

G.E. NUCLEONICS PROJECT

**GENERAL ELECTRIC
COMPANY**#5 - Extra
#6 - Extra
#7 - Extra
#8 - Extra
#9 - Extra
#10 - Extra

This document contains information affecting the national defense of the United States within the meaning of the espionage act, U.S. C., 50: 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

October 16, 1946
This document consists of
2 Pages No. 4 of
Copies Series 3
5.91 13-12-46
copy 1/4

THE AREA ENGINEER
HANFORD ENGINEER WORKS

REF: EIDM PT 311.5

The study requested in your letter of September 3, 1946 for placing the 100 B Area in operation is herewith presented. Three plans were necessary for the study. The metal requirements are attached to the three plans as a separate portion of this report.

Plan I

This plan gives schedules, cost estimates and manpower requirements on the shortest possible time in which the Area can be started.

- a. Time - 10 days to 2 weeks.
- b. Direct cost - Approximately \$40,000 above present operating costs.
- c. All personnel in all departments in all pile areas will be required to work 48-hours a week.

Plan II

This plan gives the same information as Plan I but performs the work in a more normal manner.

- a. Time - 30 days.
- b. Direct cost - Approximately \$50,000 above present operating costs.
- c. In this plan only the Power, P and Instrument Departments will be required to go to a 48-hour work week.

Plan III

This plan follows Plan I or Plan II. It is presented to show the additional manpower requirements necessary to return the plant to a normal 40-hour work week and normal crews in all areas. In this plan it is assumed that the additional manpower can be hired and trained in a period of 120 days after Plan I or Plan II is put into effect. The additional cost of procuring and training new personnel with the required

MASTER SCHEDULE PLAN I. 100-B AREA.

Nº	Bldg	JOB TO BE DONE.	-10.	-9.	-8.	-7.	-6.	-5.	-4.	-3.	-2.	-1.	0.
1.	115	Place Purification Room In Operation											
2.	115	Rise Darge Blower #1 & #2 In Operation											
3.	105	Complete Process Water Connections In Tubes											
4.	105	Test Horizontal Rods & Vertical Rods											
5.	105	Buff Vertical Rods											
6.		Load Unit											
7.		Buff Vertical Rod Guides & Test Rod											
8.		Rapine Chambers & Har. foring Instr Around											
9.		Condition Exit Wafer Monitoring Equipment											
10.		Condition Cab on Rear Elevator											
11.		Change Screens As Required 4" front face											
12.		Purge System With Solids & Flush											
13.		Test 350" Pressure Flow Thru Unit											
14.		Change Screens In Valve Pit											
15.		Trouble Shoot Safety Circuits - Units											
16.		Change 20 special Panels To Normal											
17.		3" Grate Panels											
18.		Condition Motor Driven Exhaust Fans #7 & #8											
19.		Turbine Driven Fans 2, 4, 5, 9, 10											
20.		Elec. Driven Air Compressor #3											
21.		Condition Gas Sampling Pumps											
22.		Condition Riser Valve Stems Front & Rear											
23.		Condition 1" & Heaters In Storage Area											
24.		Condition Buff 1" Heaters											
25.		Condition Inductive Lifts (9)											
26.		Condition Scales #1, #2, #3, #4, #5, #6											
27.	107	Reconnect 3 Monitor & Intermediate Monitor Service											
28.	108	Check Lines, Put Rotameters and pres.											
29.	101	Reconnect Steam Supply to 131											
30.		Condition Turbine Driven Pumps #6, #7, #16											
31.		Check Lines, Put Manometers & Gauges In Service											
32.	82	Organic Reservoir Pumps #2, #3, #4											
33.		Filter Supply pumps 4, 5, 6, 7, 8											
34.		Check Lines, Put Manometers & Gauges In Service											
35.	183	Condition Flocculators 8, 9, 10, 11, 12 & 13											
36.		Condition Mixers 3 & 4											
37.		Condition Lime Feeders #3 & #4											
38.		Coag. Feeders #3 & #4											
39.		Turbine Driven Emergency Pumps											
40.		Restore North Cone Valve, Metering & Contr.											
41.	194	Steam Generator #3											
42.		Steam Generator #4											
43.		Phosphate pumps											
44.	185	5 Ph. Meters, 5 Flow Contr. & Metering System											
45.		Sodium Silicate pumps #6, #7, #8, #9, #10											
46.		Bichromate pumps #6, #7, #8, #9, #10											
47.		Acid pumps 6, 7, 8, 9, 10											
48.		Condition Contr. Panels for Chemical Feed pumps											
49.	190	Change Oil In 12 Process Pump Motors											
50.		Set Master Regulators											
51.		Check Calibration of 8 Control Systems											
52.	1701	Install Electrometers & put In Service											
53.	1704	Air Conditioning Unit											

* To Be Done If Required

o Start Reference To Schedule Necessary For Completion In Specified Time

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DETAIL SCHEDULE PLAN I. 100-B AREA. continued

2

[illegible]

84 Indicates 8 Hrs. Work

DEFENSE COUNCIL PLAN II U.S.A. Cont'd

[illegible]

PROTECTION:

No additional manpower will be required.

SERVICE:

For the start-up no additional manpower is required.

TECHNICAL:

During the start-up period the shift coverage will require at least two especially trained physicists per shift. These men can be obtained from the present technical group.

TRANSPORTATION:

The additional manpower requirements in supervision and operators can be met by upgrading through the different levels until a manpower shortage appears in the village labor. Shortage at this point can be tolerated for a short period.

POWER:

No additional manpower will be required.

PROTECTION:

No additional manpower will be required.

SERVICE:

For the start-up no additional manpower is required.

TECHNICAL:

During the start-up period the shift coverage will require at least two especially trained physicists per shift. These men can be obtained from the present technical group.

TRANSPORTATION:

The additional manpower requirements in supervision and operators can be met by upgrading through the different levels until a manpower shortage appears in the village labor. Shortage at this point can be tolerated for a short period.

POWER:

No additional manpower will be required.

ESTIMATED ADDITIONAL MATERIAL AND LABOR COSTS

100-B AREA

PLAN NO. 1

DEPARTMENT	MATERIAL COST	LABOR COSTS	TOTAL	REMARKS
Accounting	--	507.00	507.00	
Electrical	105.00	1510.00	1615.00	
Fire	--	780.00	780.00	
H. I.	--	380.00	380.00	
Instrument	135.00	1680.00	1755.00	
Maintenance	200.00	3960.00	4160.00	
Medical	--	190.00	190.00	
mpn	--	4500.00	4500.00	
Power	8645.00	9800.00	18,445.00	
Protection	--	3440.00	3440.00	
Service	--	268.00	268.00	
Technical	--	170.00	170.00	
Transportation	450.00	2745.00	3195.00	
TOTAL	9535.00	29,870.00	39405.00	

SHEET 1 OF 2

ESTIMATED ADDITIONAL MATERIAL AND LABOR COSTS

100-B AREA

PLAN NO. I

DEPARTMENT	MATERIAL COST	LABOR COSTS	TOTAL	REMARKS
Accounting	--	507.00	507.00	
Electrical	105.00	1510.00	1615.00	
Fire	--	780.00	780.00	
H. I.	--	380.00	380.00	
Instrument	135.00	1620.00	1755.00	
Maintenance	200.00	3960.00	4160.00	
Medical	--	190.00	190.00	
Phone	--	4500.00	4500.00	
Power	8645.00	9800.00	18,445.00	
Protection	--	3440.00	3440.00	
Service	--	268.00	268.00	
Technical	--	170.00	170.00	
Transportation	450.00	2745.00	3195.00	
TOTAL	9535.00	29,870.00	39405.00	

SHEET 1 of 24

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ESTIMATED LAN POWER REQUIREMENTS

100-B AREA

PLAN NO. I

I DEPARTMENT	II PRESENT IN 100-B		III REQUIRED 48 HR. WEEK 100-B		IV PRESENT 100-D & F		V REQUIRED 48 HR. WEEK 100-D & F		VI AVAILABLE FOR 100-B COLUMN 4 MINUS 5		VII ADDIT. LAN POWER REQUIREMENTS 100-B	
	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.
Accounting	0	1	0	7	1	16	1	12	0	4	0	2
Electrical	1	4	1	8	5	29	4	21	1	8	0	0
Fire	4	19	4	19	0	8	0	8	0	0	0	0
H. I.	Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing force.											
Instrument	1	4	3	15	6	34	5	24	1	10	1	1
Maintenance	1	9	3	34	12	89	9	63	3	26	0	0
Medical	Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing force.											
" "	6	11	11	36	24	78	19	58	5	20	0	5
Power	7	39	21	77	47	204	33	143	14	61	0	0
Protection	6	23	6	38	12	99	9	70	3	29	0	0
Service	0	1	0	5	1	10	1	7	0	3	0	1
Technical	0	0	2	0	4	0	4	0	0	0	2	0
Transportation	0	8	1	25	2	56	2	43	0	13	1	4

* Requirements are absolute minimum for 48 hr. week.
No extra personnel for sickness, vacation, and other contingencies.

SECRET

ESTIMATED MAN POWER REQUIREMENTS

100-B AREA

PLAN NO. I

I DEPARTMENT	II PRESENT IN 100-B		III REQUIRED 48 HR. WEEK 100-B		IV PRESENT 100-D & F		V REQUIRED 48 HR. WEEK 100-D & F		VI AVAILABLE FOR 100-B COLUMN 4 MINUS 5		VII ADDIT. MAN POWER REQUIREMENTS 100-B	
	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.	No. Supr.	No. Opr.
Accounting	0	1	0	7	1	16	1	12	0	4	0	2
Electrical	1	4	1	8	5	29	4	21	1	8	0	0
Fire	4	19	4	19	0	8	0	8	0	0	0	0
I.	Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing force.											
Instrument	1	4	3	15	6	34	5	24	1	10	1	1
Maintenance	1	9	3	34	12	89	9	63	1	26	0	0
Medical	Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing force.											
"P"	6	11	11	36	24	78	19	58	5	20	0	5
Power	7	39	21	77	47	204	33	143	14	61	0	0
Protection	6	23	6	38	12	99	9	70	3	29	0	0
Service	0	1	0	5	1	10	1	7	0	3	0	1
Technical	0	0	2	0	4	0	4	0	0	0	2	0
Transportation	0	8	1	25	2	56	2	43	0	13	1	4

* Requirements are absolute minimum for 48 hr. week.
No extra personnel for sickness, vacation, and other contingencies.

SHEET 19 OF 24.

7-5/71 2041
SEC 76-61 10

7-5-1961

MASTER SCHEDULE PLAN II

No.	JOBS TO BE DONE.																												
		-30.	-29.	-28.	-27.	-26.	-25.	-24.	-23.	-22.	-21.	-20.	-19.	-18.	-17.	-16.	-15.	-14.	-13.	-12.	-11.	-10.	-9.	-8.	-7.	-6.	-5.	-4.	-3.
1	Place Purification Room In Operation																												
2	Place Purga Blower #1 & #2 In Operation																												
3	Complete Process Water Connections In Tubes																												
4	Test Horizontal Rods																												
5	Buff Vertical Rods																												
6	Test Vertical Rod Wells																												
7	Buff Vertical Rod Guides																												
8	Replace Chambers & Monitoring Inst. Array																												
9	Condition Exit Water Monitoring Equipment																												
10	Condition Cab On Rear Elevator																												
11	Change Screens As Required & Front Face																												
12	Purge System With Solids and Flush																												
13	Mr. Test 850 pressure flow thru Unit																												
14	Change Screens In Valve pit																												
15	Trouble shoot Safety Circuits - Units																												
16	Change 20 Special Panels to Normal																												
17	Calibrate panel - lites																												
18	Condition Motor Driven Exhaust fans #7, #8																												
19	Turbine driven fans 2, 4, 5, 9, 10																												
20	Elec. Driven Air Compressor #3																												
21	Condition Gas Sampling Pumps																												
22	Condition Riser Valve stems front & Rear																												
23	Condition Unit heaters In Storage Area																												
24	Condition Buffalo Unit Heaters																												
25	Condition Hydraulic lifts (3)																												
26	Condition Scales #1, #2, #3, #4, #5, #6																												
27	Restore #5 Monitor Intermediate Transfer Service																												
28	Check Lines, put Manometers and pres																												
29	Reconnect steam supply to 181																												
30	Condition turbine driven pumps #6, #7, #16																												
31	Check Lines, put Manometers & Gauges In Service																												
32	Emergency Reservoir pumps #2, #3, #4																												
33	Filter Supply Pumps #5, #6, #7, #8																												
34	Check Lines, put Manometers & Gauges In Service																												
35	Condition Flocculators 8, 9, 10, 11, 12, 13																												
36	Condition Mixers #3 & #4																												
37	Condition Lime feeders #3 & #4																												
38	Coag. feeders #3 & #4																												
39	Turbine Driven Emergency Pumps																												
40	Restore North Canal Valve, Metering & Control system																												
41	Steam Generator #3																												
42	Steam generator #4																												
43	phosphate Pumps																												
44	5 Ph. Heaters, 5 Flow Contr. & Metering Systems																												
45	Sodium Silicate pumps #6, #7, #8, #9, #10																												
46	Dichromate Pumps #6, #7, #8, #9, #10																												
47	Acid pumps 6, 7, 8, 9, 10																												
48	Cond. for Contr. Panels for Chemical feed Pumps																												
49	Change Oil In 12 Process Pump Motors																												
50	Say Master Regulators																												
51	Check & Calibration of 8 Control Systems																												
52	Install Electro meters & put In Service																												
53	Install Air Conditioning Equip.																												
54	Test unit																												

SHEET II OF 24

[illegible]

Note! { Figures under extra heavy Schedule
Lines indicates more hours.

1105.5.2: Pro fiction laws in operation

St. Lawrence Dept.
Bureau of

21010 22 Dept.
Tel. House No. 1212

2nd Floor: Purge & over 1st & 2nd Fl. Operation

Electrical Dept.
Mechanical Dept.

3 105 Complete Process Water Connections To Tubes

Academy Dept.
"P"
Dept.

4 125 Test Horizontal Rods

Maintenance Dept.	Electric Dept.
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5 105 Duff Vertical Rods

Max Kavanis Dep.
e 25 Top Vertice Rod Wells

Hammerman's Dept.

5 Days rest 100 Guides

1895. 1896. 1897. 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937. 1938. 1939. 1940. 1941. 1942. 1943. 1944. 1945. 1946. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025. 2026. 2027. 2028. 2029. 2030. 2031. 2032. 2033. 2034. 2035. 2036. 2037. 2038. 2039. 2040. 2041. 2042. 2043. 2044. 2045. 2046. 2047. 2048. 2049. 2050. 2051. 2052. 2053. 2054. 2055. 2056. 2057. 2058. 2059. 2060. 2061. 2062. 2063. 2064. 2065. 2066. 2067. 2068. 2069. 2070. 2071. 2072. 2073. 2074. 2075. 2076. 2077. 2078. 2079. 2080. 2081. 2082. 2083. 2084. 2085. 2086. 2087. 2088. 2089. 2090. 2091. 2092. 2093. 2094. 2095. 2096. 2097. 2098. 2099. 2100. 2101. 2102. 2103. 2104. 2105. 2106. 2107. 2108. 2109. 2110. 2111. 2112. 2113. 2114. 2115. 2116. 2117. 2118. 2119. 2120. 2121. 2122. 2123. 2124. 2125. 2126. 2127. 2128. 2129. 2130. 2131. 2132. 2133. 2134. 2135. 2136. 2137. 2138. 2139. 2140. 2141. 2142. 2143. 2144. 2145. 2146. 2147. 2148. 2149. 2150. 2151. 2152. 2153. 2154. 2155. 2156. 2157. 2158. 2159. 2160. 2161. 2162. 2163. 2164. 2165. 2166. 2167. 2168. 2169. 2170. 2171. 2172. 2173. 2174. 2175. 2176. 2177. 2178. 2179. 2180. 2181. 2182. 2183. 2184. 2185. 2186. 2187. 2188. 2189. 2190. 2191. 2192. 2193. 2194. 2195. 2196. 2197. 2198. 2199. 2200. 2201. 2202. 2203. 2204. 2205. 2206. 2207. 2208. 2209. 2210. 2211. 2212. 2213. 2214. 2215. 2216. 2217. 2218. 2219. 2220. 2221. 2222. 2223. 2224. 2225. 2226. 2227. 2228. 2229. 2230. 2231. 2232. 2233. 2234. 2235. 2236. 2237. 2238. 2239. 2240. 2241. 2242. 2243. 2244. 2245. 2246. 2247. 2248. 2249. 2250. 2251. 2252. 2253. 2254. 2255. 2256. 2257. 2258. 2259. 2260. 2261. 2262. 2263. 2264. 2265. 2266. 2267. 2268. 2269. 2270. 2271. 2272. 2273. 2274. 2275. 2276. 2277. 2278. 2279. 2280. 2281. 2282. 2283. 2284. 2285. 2286. 2287. 2288. 2289. 2290. 2291. 2292. 2293. 2294. 2295. 2296. 2297. 2298. 2299. 2300. 2301. 2302. 2303. 2304. 2305. 2306. 2307. 2308. 2309. 2310. 2311. 2312. 2313. 2314. 2315. 2316. 2317. 2318. 2319. 2320. 2321. 2322. 2323. 2324. 2325. 2326. 2327. 2328. 2329. 2330. 2331. 2332. 2333. 2334. 2335. 2336. 2337. 2338. 2339. 2340. 2341. 2342. 2343. 2344. 2345. 2346. 2347. 2348. 2349. 2350. 2351. 2352. 2353. 2354. 2355. 2356. 2357. 2358. 2359. 2360. 2361. 2362. 2363. 2364. 2365. 2366. 2367. 2368. 2369. 2370. 2371. 2372. 2373. 2374. 2375. 2376. 2377. 2378. 2379. 2380. 2381. 2382. 2383. 2384. 2385. 2386. 2387. 2388. 2389. 2390. 2391. 2392. 2393. 2394. 2395. 2396. 2397. 2398. 2399. 2400. 2401. 2402. 2403. 2404. 2405. 2406. 2407. 2408. 2409. 2410. 2411. 2412. 2413. 2414. 2415. 2416. 2417. 2418. 2419. 2420. 2421. 2422. 2423. 2424. 2425. 2426. 2427. 2428. 2429. 2430. 2431. 2432. 2433. 2434. 2435. 2436. 2437. 2438. 2439. 2440. 2441. 2442. 2443. 2444. 2445. 2446. 2447. 2448. 2449. 2450. 2451. 2452. 2453. 2454. 2455. 2456. 2457. 2458. 2459. 2460. 2461. 2462. 2463. 2464. 2465. 2466. 2467. 2468. 2469. 2470. 2471. 2472. 2473. 2474. 2475. 2476. 2477. 2478. 2479. 2480. 2481. 2482. 2483. 2484. 2485. 2486. 2487. 2488. 2489. 2490. 2491. 2492. 2493. 2494. 2495. 2496. 2497. 2498. 2499. 2500. 2501. 2502. 2503. 2504. 2505. 2506. 2507. 2508. 2509. 2510. 2511. 2512. 2513. 2514. 2515. 2516. 2517. 2518. 2519. 2520. 2521. 2522. 2523. 2524. 2525. 2526. 2527. 2528. 2529. 2530. 2531. 2532. 2533. 2534. 2535. 2536. 2537. 2538. 2539. 2540. 2541. 2542. 2543. 2544. 2545. 2546. 2547. 2548. 2549. 2550. 2551. 2552. 2553. 2554. 2555. 2556. 2557. 2558. 2559. 2560. 2561. 2562. 2563. 2564. 2565. 2566. 2567. 2568. 2569. 2570. 2571. 2572. 2573. 2574. 2575. 2576. 25

Inspector's Dept.
300 E. 2nd St. - Water Div. - Building Department

Instrument Dept.

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Alfred's Terrace Dept.

12 135 425 Section with Soil and Blue-
"P" Dept.

4. Finance Dept.

Rev. Dep. Dist.

13. 105 Wtr. Test 350 Pressure Flow Thru Unit

"P" Diph

Lower Dept
Tasteren, Dept

14 105 Change Screen. in Valve Pit

Acetabularia Dopi.
Pennisetum Dopi.

15 057rev. Shoot Safety Circuit- Unit

Electrical Dept
"P"
Dept

16 105.4 bays #0 Special Tourist to Pleasant

17 105° Colored localities

Eastment Dept.

19105. Condition Motor Driven Exhaust Fan, 748
Maintenance Dept.

Electrical Dept.

117 105 Turbine Driven Fans 2, 4, 5, 9, 10
SHEET 12 of 24. Maintenance Dept.

三

DETAIL SCHEDULE - PLAN II 1005 AREA.

Sheet 2

| | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 | |
|--|-----|------|--|
|--|-----|------|--|

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Sheet 3

41 184 Steam Generator #3

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PLAN II

ACCOUNTING:

Since no special training is required for the accounting personnel stationed in the areas, it is assumed that there would be no need for going to a 48 hour week in the Accounting Department. The deficiency in personnel could be hired and sufficiently trained to handle their jobs in a 30 day period.

ELECTRICAL:

No additional help would be required for starting up 100-B in a 30 day period, and a 48 hour work week would not be required. During this period an assignment engineer from another area would be used for supervision.

FIRE:

A 48 hour week would not be required for start-up since the area is fully manned at the present time. No additional personnel required.

H.I.I:

A 48 hour work week would not be required. Shift coverage can be obtained by having the shift men who now divide their time equally between D and F Areas to spend equal time in all areas. Sufficient day supervision will be available.

INSTUMENT:

Due to the specialized training required in this group, it would be necessary for this department to work a 48 hour week. Sufficient manpower can be made available for coverage.

MAINTENANCE:

A 48 hour work week would not be required. By neglecting some preventative maintenance work during the 30 day period sufficient manpower can be made available for coverage.

MEDICAL:

A 48 hour week would not be required. The Medical Department personnel works in all areas. By reducing the time spent in each of the areas, sufficient coverage can be obtained.

"P":

Due to the specialized training required for operators in the "P" Department, it will not be possible to meet the manpower requirements by hiring. Since the work to be done can be spread over a period of 30 days no additional manpower will be required until 10 days before start-up. The additional manpower requirements will be met by going

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Plan II
Page 2

to a 48 hour week.

POWER:

Due to the specialized training required for operators in the Power Department, it will not be possible to meet the manpower requirements by hiring. Since the work to be done can be spread over a period of 30 days no additional manpower will be required until 10 days before start-up. The additional manpower requirements will be met by going to a 48 hour week.

PROTECTION:

A 48 hour week would not be required since no specialized training is necessary. During the 30 day period the deficiency in personnel could be obtained from newly hired personnel.

SERVICE:

A 48 hour week would not be required since no specialized training is necessary. The deficiency in personnel could be obtained from newly hired personnel.

TECHNICAL:

A 48 hour week would not be required since sufficiently trained personnel can be made available from the Technical Department for the start-up period.

TRANSPORTATION:

A 48 hour week would not be required. By upgrading within the Transportation Department sufficient personnel can be made available at the expense of reducing the labor force in the Village.

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ESTIMATED MAN POWER REQUIREMENTS

100-B AREA

PLAN NO. **IV**

| I | II | | III | | IV | | V | | VI | | VII | |
|----------------|--|----------|----------------------------|----------|-------------------|----------|--------------------------------|----------|--------------------------------------|----------|-------------------------------------|----------|
| DEPARTMENT | PRESENT IN 100-B | | REQUIRED 48 HR. WEEK 100-B | | PRESENT 100-D & F | | REQUIRED 48 HR. WEEK 100-D & F | | AVAILABLE FOR 100-B COLUMN 4 MINUS 5 | | ADDIT. MAN POWER REQUIREMENTS 100-B | |
| | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. |
| Accounting | 0 | 1 | 0 | 7 | 1 | 16 | | | | | 0 | 6 |
| Electrical | 1 | 4 | 2 | 4 | 5 | 29 | | | | | 1 | 0 |
| Fire | 4 | 19 | 4 | 19 | 0 | 8 | | | | | 0 | 0 |
| H. I. | Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing forces. | | | | | | | | | | | |
| Instrument | 1 | 4 | 3 | 15 | 6 | 34 | 5 | 24 | 1 | 10 | 1 | 1 |
| Maintenance | 1 | 9 | 2 | 19 | 12 | 89 | | | | | 0 | 0 |
| Medical | Personnel requirements not rigid due to multi-area work. Temporary requirements can be met by less area coverage with existing forces. | | | | | | | | | | | |
| "P" | 6 | 11 | 11 | 36 | 24 | 78 | 10 | 58 | 5 | 30 | 0 | 5 |
| Power | 7 | 39 | 21 | 77 | 47 | 204 | 33 | 143 | 14 | 61 | -- | -- |
| Protection | 6 | 23 | 6 | 49 | 12 | 99 | 12 | 99 | | | | 26 |
| Service | 0 | 1 | 0 | 5 | 1 | 10 | 1 | 10 | -- | -- | 0 | 4 |
| Technical | 0 | 0 | 2 | 0 | 4 | 0 | 4 | 0 | -- | -- | 2 | 0 |
| Transportation | 0 | 8 | 1 | 28 | 2 | 56 | 2 | 58 | -- | -- | 1 | 20 |

* Figures based on 40 hr. week

* Figures based on 48 hr. week

ESTIMATED ADDITIONAL MATERIAL AND LABOR COSTS

100-B AREA

PLAN NO. II

| DEPARTMENT | MATERIAL COST | LABOR COSTS | TOTAL | REMARKS |
|----------------|---------------|-------------|-----------|---------|
| Accounting | | 1720.00 | 1720.00 | |
| Electrical | 105.00 | 400.00 | 505.00 | |
| Fire | -- | -- | -- | |
| H. I. | -- | 675.00 | 675.00 | |
| Instrument | 200.00 | 5000.00 | 5200.00 | |
| Maintenance | 200.00 | 3960.00 | 4160.00 | |
| Medical | -- | -- | -- | |
| "pu" | -- | 4500.00 | 4500.00 | |
| Power | 12,960.00 | 9,800.00 | 22,760.00 | |
| Protection | -- | 3584.00 | 3584.00 | |
| Service | -- | 438.00 | 438.00 | |
| Technical | -- | 525.00 | 525.00 | |
| Transportation | 1,200.00 | 4,891.00 | 6,091.00 | |
| | | | | |
| TOTAL | 14,665.00 | 35,493.00 | 50,158.00 | |

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PLAN III

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ACCOUNTING:

The Accounting Department will need 6 clerks for continued 40 hour operation. Requirements can be met by hiring personnel from the present applicants.

ELECTRICAL:

For continued 40 hour operation it will be necessary to hire 9 electrician's from applicants on hand. Supervisory requirements will be met by upgrading.

FIRE:

No additional help required for 40 hour operation.

H.I.I.

Continued 40 hour operation will require 6 additional men. These requirements will be met by upgrading and from new hires.

MAINTENANCE:

Requirements for continued 40 hour operation can be met by upgrading one man to supervision and hiring four mechanics.

MEDICAL:

For continued 40 hour operation, one nurse and one receptionist will be needed.

"P":

For operation on a 40 hour week, 6 supervisor's and 25 operators will be needed. The supervisory requirements will be met by upgrading, transfers, and new hires. The immediate operator requirements can be met from the 300 Area. It will be necessary for the 300 Area to hire new men.

POWER:

On a 40 hour week, 17 supervisors and 52 operators will be needed. The supervisory requirements will be met by upgrading, and hiring of supervisory personnel with the desired qualifications. Operator requirements will be met by new hires.

PROTECTION:

For continued 40 hour operation it will be necessary to hire 26 patrolmen.

SERVICE:

For continued 40 hour operation, it will be necessary to hire four janitors.

TECHNICAL:

For continued 40 hour operation it will be necessary to hire 1 physicist and 1 assistant.

TRANSPORTATION:

For continued operation it will be necessary to obtain 1 supervisor and 20 operators. The supervisor will be obtained by upgrading. The area operator requirements will be met by upgrading in the entire transportation department. It will finally be necessary to hire 20 laborers for Village work.

ESTIMATED MAN POWER REQUIREMENTS

100-B AREA

PLAN NO. III

| I | II | | III | | IV | | V | | VI | | VII | |
|----------------|---------------------|----------|----------------------------------|----------|----------------------|----------|--------------------------------------|----------|--|----------|---|----------|
| DEPARTMENT | PRESENT IN
100-B | | REQUIRED
48 HR. WEEK
100-B | | PRESENT
100-D & F | | REQUIRED
48 HR. WEEK
100-D & F | | AVAILABLE
FOR 100-B
COLUMN 4 MINUS 5 | | ADDIT. MAN POWER
REQUIREMENTS
100-B | |
| | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. | No. Supr. | No. Opr. |
| Accounting | 0 | 1 | 0 | 7 | | | | | | | 0 | 6 |
| Electrical | 1 | 4 | 2 | 12 | | | | | | | 1 | 8 |
| Fire | 4 | 19 | 4 | 19 | | | | | | | 0 | 0 |
| H. I. | 1 | 0 | 6 | 1 | | | | | | | 5 | 1 |
| Instrument | 1 | 4 | 3 | 16 | | | | | | | 2 | 12 |
| Maintenance | 1 | 9 | 2 | 12 | | | | | | | 1 | 3 |
| Medical | 0 | 1 | 0 | 3 | | | | | | | 0 | 2 |
| "P" | 6 | 11 | 12 | 36 | | | | | | | 6 | 25 |
| Power | 7 | 39 | 27 | 91 | | | | | | | 17 | 52 |
| Protection | 6 | 23 | 6 | 49 | | | | | | | 0 | 26 |
| Service | 0 | 1 | 0 | 5 | | | | | | | 0 | 4 |
| Technical | 0 | 0 | 2 | 0 | | | | | | | 2 | 0 |
| Transportation | 0 | 8 | 1 | 28 | | | | | | | 1 | 20 |

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GENERAL ELECTRIC

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date 10-16-46

October 16, 1946

START-UP STUDY — 100 B AREA
METAL REQUIREMENTS

Tables I and II of this Study indicate metal requirements and 300 Area production rates incident to starting the 100 B Area.

The following assumptions have been made in preparing the tables:

1. The present stock of unbonded slugs (70 units) will be processed to bonded slugs during the period of October 15, 1946 to March 15, 1947 at a rate of approximately 20 units per month.
2. A normal metal inventory of approximately 400 units will be maintained, this being divided into 200 units of billets and rods and 200 units of slugs.
3. Starting the 100 B Area on:
 - a. November 15, 1946
 - b. March 15, 1947
4. Present forecast of metal receipts will be maintained.

It should be noted that in starting the B Area on November 15, 1946 it will be necessary to increase the metal receipts as of the November shipment. Slug production will be increased in January 1947. If the Area is started on March 15, 1947, the metal receipts will have to be increased with the June shipment and slug production will be increased in May 1947.

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TABLE I

| <u>Date</u> | <u>Billet Receipts
During Past 30 Days</u> | <u>300 Area
"Billet"
Inventory</u> | <u>Total "Slug"
Inventory</u> | | <u>Total
Metal
on Plant</u> | <u>300 Area
Production
During Past
30 Days</u> | <u>Slugs Used
in 100 Areas
During Past
30 Days</u> |
|-------------|--|--|-----------------------------------|-----------------|-------------------------------------|--|--|
| | | | <u>Regulars</u> | <u>Unbonded</u> | | | |
| 10-15-46 | 56 | 92 | 256 | 70 | 418 | 60 | 60 |
| 11-15-46 | 75* | 102 | 256 | 55 | 413 | 60 | 60 |
| 12-15-46 | 100 | 137 | 222 | 40 | 399 | 60 | 94 |
| 1-15-47 | 100 | 172 | 205 | 25 | 402 | 60 | 77 |
| 2-15-47 | 120 | 185 | 209 | 10 | 404 | 90 | 86 |
| 3-15-47 | 120 | 191 | 213 | 0 | 404 | 90 | 86 |
| 4-15-47 | 130 | 192 | 213 | 0 | 405 | 90 | 90 |
| 5-15-47 | 130 | 193 | 197 | 0 | 390 | 90 | 106 |
| 6-15-47 | 130 | 194 | 194 | 0 | 388 | 90 | 93 |
| 7-15-47 | 130 | 195 | 197 | 0 | 392 | 90 | 87 |
| 8-15-47 | 130 | 200 | 197 | 0 | 397 | 87 | 87 |
| 9-15-47 | 125 | 200 | 197 | 0 | 397 | 87 | 87 |

* This billet shipment is already scheduled. Subsequent shipments would have to be scheduled as indicated above.

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TABLE II

| <u>Date</u> | <u>Billet Receipts
During Past
30 Days</u> | <u>300 Area
"Billet"
Inventory</u> | <u>Total "Slug"
Inventory</u> | | <u>Total
Metal
on Plant</u> | <u>300 Area
Production
During Past
30 Days</u> | <u>Slugs Used
in 100 Areas
During Past
30 Days</u> |
|-------------|--|--|-----------------------------------|-----------------|-------------------------------------|--|--|
| | | | <u>Regulars</u> | <u>Unbonded</u> | | | |
| 10-15-46 | 56 | 92 | 256 | 70 | 418 | 60 | 60 |
| 11-15-46 | 75* | 102 | 256 | 55 | 413 | 60 | 60 |
| 12-15-46 | 85* | 122 | 256 | 40 | 418 | 60 | 60 |
| 1-15-47 | 110* | 167 | 256 | 25 | 448 | 60 | 60 |
| 2-15-47 | 110* | 212 | 256 | 10 | 478 | 60 | 60 |
| 3-15-47 | 110* | 251 | 256 | 0 | 507 | 60 | 60 |
| 4-15-47 | 90* | 255 | 222 | 0 | 477 | 60 | 94 |
| 5-15-47 | 90* | 259 | 205 | 0 | 464 | 60 | 77 |
| 6-15-47 | 90* | 220 | 209 | 0 | 429 | 90 | 86 |
| 7-15-47 | 120 | 221 | 213 | 0 | 434 | 90 | 86 |
| 8-15-47 | 120 | 212 | 213 | 0 | 425 | 90 | 90 |
| 9-15-47 | 125 | 208 | 197 | 0 | 405 | 90 | 106 |

* These billet shipments are already scheduled. Subsequent shipments would have to be scheduled as indicated above.

MANHATTAN DISTRICT HISTORY

BOOK IV - X10 PROJECT

VOLUME 6 - OPERATION

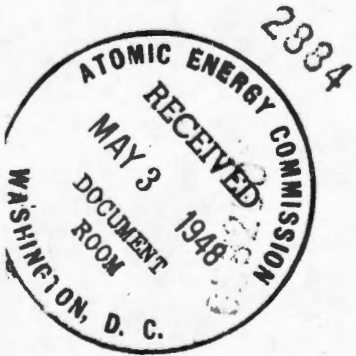
APPENDIX E

GLOSSARY

Diatomaceous Earth - A finely-divided, porous, light-weight material which is used in the process water to the Piles to prevent film formation in the cooling tubes.

Milli-roentgen - A milli-roentgen is one-thousandth of the unit of gamma dosage; the unit (roentgen) is defined as that quantity of gamma radiation which will produce one electrostatic unit of ions in one cubic centimeter of atmospheric air.

Zee-Karb H - Zee-Karb H is the trade name given to the cation exchanger used in the Permutit Company Demineralization Units.



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